



2022 ANNUAL REPORT

Customer-Centric | Operations-Driven



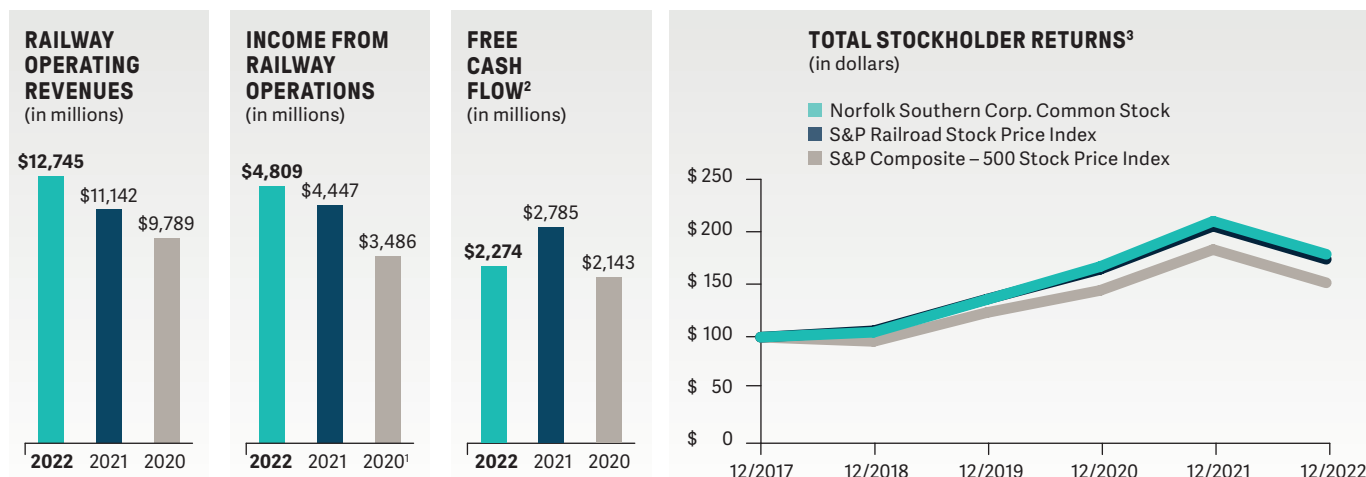
FINANCIAL HIGHLIGHTS

Norfolk Southern Corporation & Subsidiaries

FOR THE YEAR (numbers in millions, except per-share amounts)	2022	2021	2020
Railway operating revenues	\$ 12,745	\$ 11,142	\$ 9,789
Income from railway operations ¹	\$ 4,809	\$ 4,447	\$ 3,486
Net income ¹	\$ 3,270	\$ 3,005	\$ 2,375
Per share – diluted ¹	\$ 13.88	\$ 12.11	\$ 9.25
Dividends per share	\$ 4.96	\$ 4.16	\$ 3.76
Dividend pay-out ratio ¹	36%	34%	40%
Net cash provided by operating activities	\$ 4,222	\$ 4,255	\$ 3,637
Property additions	\$ 1,948	\$ 1,470	\$ 1,494
Free cash flow ²	\$ 2,274	\$ 2,785	\$ 2,143
AT YEAR-END			
Total assets	\$ 38,885	\$ 38,493	\$ 37,962
Total debt	\$ 15,182	\$ 13,840	\$ 12,681
Stockholders' equity	\$ 12,733	\$ 13,641	\$ 14,791
Shares outstanding	228.1	240.2	252.1
FINANCIAL RATIOS			
Operating ratio ¹	62.3%	60.1%	64.4%
Debt-to-total capitalization ratio	54.4%	50.4%	46.2%

DESCRIPTION OF BUSINESS

Norfolk Southern Corporation (NYSE: NSC) is one of the nation's premier transportation companies, moving the goods and materials that drive the U.S. economy. Its Norfolk Southern Railway Company subsidiary connects customers to markets and communities to economic opportunity with safe, reliable, and cost-effective shipping solutions. The company operates approximately 19,100 route miles across a service territory that includes 22 states and the District of Columbia, every major container port in the eastern United States, and a majority of the U.S. population and manufacturing base. In addition to operating the most extensive intermodal network in the East, the company is a major transporter of industrial products, automobiles, automotive parts, and coal.



1 Our 2020 financial results included a loss on asset disposal of \$385M related to locomotives sold and a \$99M impairment charge related to an equity method investment. For purposes of period-over-period comparability, 2020 results for income from railway operations, net income, net income per share – diluted, dividend payout ratio, and operating ratio have been adjusted to exclude these charges, and are considered non-GAAP financial measures. The 2020 dividend payout ratio is dividends paid (\$960M) as a percentage of adjusted net income (\$2,375M), as compared to a 48% dividend payout ratio using net income under GAAP (\$2,013M). For more information, see the "Non-GAAP Reconciliation for 2020" on page K20 of our Annual Report on Form 10-K.

2 Free cash flow is considered a non-GAAP financial measure and is a measure of cash available for other investing and financing activities, including payment of dividends, repurchases of common stock, and repayments of debt. Management believes that this non-GAAP financial measure provides useful supplemental information to investors regarding our ability to generate cash flows after taking into consideration cash necessary to cover operations and maintain and grow our capital base. Net cash provided by operating activities is a GAAP measure. Free cash flow (\$2,274M) is net cash provided by operating activities (\$4,222M) reduced by payments for property additions (\$1,948M).

3 This graph compares the cumulative stockholder returns on Norfolk Southern Corporation common stock with the other identified indices. It assumes an investment of \$100 in NSC common stock and each index on Dec. 31, 2017, and that all dividends were reinvested over the five-year period, ending Dec. 31, 2022. Data furnished by Bloomberg Financial Markets.



DEAR FELLOW SHAREHOLDERS

The priority for your management team in 2022 was to improve service. To achieve that goal, we implemented our new TOP|SPG operating plan, with safety at its core; launched recruiting and training initiatives that achieved industry-leading success hiring conductors in a historically tight job market, and strengthened our leadership team and culture.

Our efforts took hold in the fourth quarter, and we ended 2022 delivering our best service in more than two years. Our customers noticed the difference. Volumes in December were at 52-week highs, outperforming typical seasonality.

Overcoming headwinds associated with a slower network in the first three quarters, your company achieved strong financial results in a challenging year. Total revenue grew by 14 percent to reach a company-record \$12.7 billion. We achieved company-record operating income and our second-best annual operating ratio.

We returned more than \$4 billion to shareholders in 2022, with more than 12.6 million shares repurchased.



Earnings per share grew 15 percent for the year, dividend distributions increased 14 percent, and we raised our dividend 9 percent in the first quarter of 2023.

We entered 2023 with tremendous momentum, ready to execute on the pioneering new strategy we announced at our Investor Day in December.



Our strategy is to create long-term shareholder value through a balanced approach of:

- reliable and resilient service,
- continuous productivity improvement, and
- smart and sustainable growth.

These are not competing priorities — they are complementary in a carefully blended balance.

The resulting value proposition is simple and powerful: Norfolk Southern is uniquely positioned to deliver long-term shareholder value through top-tier revenue and earnings growth, industry-competitive margins, and balanced capital deployment.

We will look to compete in the \$860 billion U.S. truck and logistics market by being a customer-centric, operations-driven service organization. Customer-centric means we will deliver a service product the market values. Operations-driven means we will make reliable and resilient service an enduring competitive strength.



With the right strategy, the right team, and a franchise built for growth, Norfolk Southern intends to lead the industry in service and growth.

As I near the end of my first year as President and CEO of Norfolk Southern, I would like to thank our outstanding Board of Directors for their thoughtful guidance, especially our Independent Chair Amy Miles for her leadership and partnership.

I would also like to recognize all the members of the Thoroughbred team, including our dedicated craft



railroaders, who deliver every day for our company, our customers, and the U.S. economy.

This is an exciting and important time for our company. We thank you for your confidence and support as we launch a new way forward for our industry.

Alan H. Shaw

“

With the right strategy, the right team, and a franchise built for growth, Norfolk Southern intends to lead the industry in service and growth.

”





THOMAS D. BELL, JR.

Director since 2010

COMMITTEES

Finance and Risk Management, Human Capital Management and Compensation

CAREER HIGHLIGHTS

Mr. Bell is the Chairman of Mesa Capital Partners, LLC, a real estate investment company. Mr. Bell previously served as Chairman and CEO of Cousins Properties, a publicly traded real estate investment trust that invests in office buildings throughout the South, from 2002 to 2009. He is also a director of Southern Company Gas (formerly AGL Resources) and was a director of Regal Entertainment Group, Inc. until its acquisition in March 2018.

EXPERTISE

CEO/Senior Officer; Environmental and Safety; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Marketing; Risk Management; Strategic Planning



MITCHELL E. DANIELS, JR.

Director since 2016

COMMITTEES

Executive, Governance and Nominating (Chair), Human Capital Management and Compensation

CAREER HIGHLIGHTS

Mr. Daniels served as the President of Purdue University from 2013 to 2023 and served as Governor of Indiana from 2005 to 2013. From 1990 to 2000, Mr. Daniels worked for Eli Lilly and Company, holding the executive positions of President of North American Pharmaceutical Operations and Senior Vice President of Corporate Strategy and Policy. Mr. Daniels is also a director of Cerner Corporation.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Strategic Planning



MARCELA E. DONADIO

Director since 2016

COMMITTEES

Audit (Chair), Executive, Finance and Risk Management

CAREER HIGHLIGHTS

Ms. Donadio is a certified public accountant with over 37 years of audit and public accounting experience. In 2014, she retired as a partner of Ernst & Young LLP, a multinational professional services firm. From 2007 until her retirement, Ms. Donadio was Americas Oil & Gas Sector Leader, with responsibility for one of Ernst & Young's significant industry groups helping set firm strategy for oil and gas industry clients in the United States and throughout the Americas. Ms. Donadio serves as Lead Independent Director of Marathon Oil Corporation, and as a director of NOV Inc. and Freeport-McMoRan, Inc.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Human Resources and Compensation; Risk Management; Strategic Planning



JOHN C. HUFFARD, JR.

Director since 2020

COMMITTEES

Finance and Risk Management, Human Capital Management and Compensation

CAREER HIGHLIGHTS

Mr. Huffard is a co-founder of Tenable Network Security, Inc. and Tenable Holdings, Inc., a cybersecurity software company. Mr. Huffard served as President and Chief Operating Officer and a director of Tenable Network Security, Inc. from 2002 to 2018, where he was responsible for driving Tenable's global corporate strategy and business operations, and was instrumental in the venture funding and IPO process. From 2018 to 2019, Mr. Huffard focused exclusively on business operations as chief operating officer of Tenable Holdings, Inc. He is also a director of Tenable Holdings, Inc.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Human Resources and Compensation; Information Technology; Marketing; Risk Management; Strategic Planning



CHRISTOPHER T. JONES

Director since 2020

COMMITTEES

Audit, Governance and Nominating, Safety

CAREER HIGHLIGHTS

Mr. Jones served as Corporate Vice President and President of the technology services sector of Northrop Grumman Corporation, a global aerospace and defense technology company, from January 2013 through December 2019. Previously, he served as Vice President and General Manager of Northrop Grumman’s integrated logistics and modernization division from 2010 through 2012. Mr. Jones was a maintenance officer in the Connecticut Air National Guard from 1997 to 2011.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Information Technology; Risk Management; Strategic Planning



THOMAS C. KELLEHER

Director since 2019

COMMITTEES

Audit, Executive, Finance and Risk Management (Chair)

CAREER HIGHLIGHTS

Mr. Kelleher has been Chairman of the Board of UBS Group AG since April 2022. Previously, he served as President of Morgan Stanley, a leading global financial services firm, from 2016 until his retirement in June 2019. He also served as Chairman and Chief Executive Officer of Morgan Stanley Bank, N.A. until June 2019. Previously, he was President of Morgan Stanley Institutional Securities from 2010 to 2016, CEO of Morgan Stanley International from 2011 to 2016, Chief Financial Officer and co-head of Corporate Strategy from 2007 to early 2010, and served as Morgan Stanley’s Head of Global Capital Markets from 2006 to 2007.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Risk Management; Strategic Planning



STEVEN F. LEER

Director since 1999

COMMITTEES

Governance and Nominating, Human Capital Management and Compensation

CAREER HIGHLIGHTS

Mr. Leer served as the Chief Executive Officer of Arch Coal, Inc., a company engaged in coal mining and related businesses, from 1992 through 2012. He was Chairman of its board from 2006 through 2012 and its Executive Chairman from 2012 through 2014. He then served as Senior Advisor to the President and CEO of Arch Coal from 2014 through May 2015. Mr. Leer was a director of Cenovus Energy Inc. until January 1, 2021, and served as the non-executive Chairman of USG Corporation until April 2019. Mr. Leer is a director of Parsons Corporation and has served as its Lead Independent Director since April 2022.

EXPERTISE

CEO/Senior Officer; Environmental and Safety; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Marketing; Strategic Planning; Transportation



MICHAEL D. LOCKHART

Director since 2008

COMMITTEES

Audit, Executive, Finance and Risk Management, Safety (Chair)

CAREER HIGHLIGHTS

Mr. Lockhart served as Chairman of the Board, President and Chief Executive Officer of Armstrong World Industries, Inc., and its predecessor, Armstrong Holdings, Inc., a leading global producer of flooring products and ceiling systems, from 2000 until his retirement in February 2010. Mr. Lockhart previously served as Chairman and Chief Executive Officer of General Signal Corporation, a diversified manufacturer, from September 1995 until it was acquired in 1998.

EXPERTISE

CEO/Senior Officer; Environmental and Safety; Finance and Accounting; Governance/Board; Marketing; Risk Management; Strategic Planning; Transportation



AMY E. MILES

Director since 2014

COMMITTEES

Independent Chair, Audit, Executive (Chair), Governance and Nominating

CAREER HIGHLIGHTS

Ms. Miles has served as Chair of the Board of Norfolk Southern since May 1, 2022, and as a director since 2014. Ms. Miles served as Chief Executive Officer of Regal Entertainment Group, Inc., a leading motion picture exhibitor, from 2009 until its acquisition in March 2018. During that time, she served as a director of Regal and was named Chair of its board in 2015. Ms. Miles previously served as Regal Entertainment’s Executive Vice President, Chief Financial Officer and Treasurer from 2002 to 2009. She is also a director of The Gap, Inc. and Amgen, Inc.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Information Technology; Marketing; Strategic Planning



CLAUDE MONGEAU

Director since 2019

COMMITTEES

Finance and Risk Management, Human Capital Management and Compensation, Safety

CAREER HIGHLIGHTS

Mr. Mongeau served as President and Chief Executive Officer of Canadian National Railway Company (CN), a North American railroad and transportation company, from January 2010 to June 2016 and as a director of CN from October 2009 to June 2016. During his 22-year career at CN, he also served as Executive Vice President and Chief Financial Officer, Vice President Strategic and Financial Planning, and Assistant Vice President Corporate Development. Mr. Mongeau is also a director of Cenovus Energy and Toronto-Dominion Bank. He was formerly a director of Telus from 2017 to 2019.

EXPERTISE

CEO/Senior Officer; Environmental and Safety; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Marketing; Risk Management; Strategic Planning; Transportation



JENNIFER F. SCANLON

Director since 2018

COMMITTEES

Governance and Nominating, Human Capital Management and Compensation, Safety

CAREER HIGHLIGHTS

Ms. Scanlon has been President and Chief Executive Officer and a director of UL Solutions, a global science safety organization, since September 30, 2019. She is the first woman to lead the organization. She previously served as President and Chief Executive Officer of USG Corporation from 2016 until its acquisition in April 2019. During that time, she served as a director of USG. Ms. Scanlon also previously served as President of USG's international business, President of its L & W Supply Corporation, and Chief Information Officer and Chairman of the Board for USG Boral Building Products.

EXPERTISE

CEO/Senior Officer; Environmental and Safety; Governance/Board; Information Technology; Marketing; Strategic Planning; Transportation



ALAN H. SHAW

Director since 2022

COMMITTEES

Executive

CAREER HIGHLIGHTS

Mr. Shaw has been President of Norfolk Southern Corporation since December 1, 2021, and Chief Executive Officer and a director since May 1, 2022. Mr. Shaw has 27 years of experience at Norfolk Southern and most recently served as Norfolk Southern's Executive Vice President and Chief Marketing Officer from May 2015 until December 2021. Mr. Shaw previously served as Norfolk Southern's Vice President Intermodal Operations from 2013 to 2015 and has been with Norfolk Southern in various positions since 1994.

EXPERTISE

CEO/Senior Officer; Governmental and Stakeholder Relations; Governance/Board; Information Technology; Marketing; Risk Management; Strategic Planning; Transportation



JAMES A. SQUIRES

Director since 2014

CAREER HIGHLIGHTS

Mr. Squires previously served as Chairman of the Board and Chief Executive Officer of Norfolk Southern from 2015 to May 2022. He served as Norfolk Southern's President from June 2013 until December 2021. During his 30-year career at Norfolk Southern, Mr. Squires also served as Executive Vice President-Administration, Executive Vice President-Finance and Chief Financial Officer, Senior Vice President Finance, Senior Vice President Law, and Vice President Law.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Marketing; Strategic Planning; Transportation



JOHN R. THOMPSON

Director since 2013

COMMITTEES

Executive, Governance and Nominating, Human Capital Management and Compensation (Chair)

CAREER HIGHLIGHTS

Mr. Thompson served as a government relations consultant for Best Buy Co., Inc., a multinational consumer electronics corporation, from October 2012 to April 2016, and as Senior Vice President and General Manager of BestBuy.com LLC, a subsidiary of Best Buy Co., Inc., from 2002 through 2012. Mr. Thompson was formerly a director of Belk, Inc. and Wendy's International, Inc.

EXPERTISE

CEO/Senior Officer; Finance and Accounting; Governance/Board; Governmental and Stakeholder Relations; Human Resources and Compensation; Information Technology; Marketing; Strategic Planning

OFFICERS

As of Feb. 1, 2023.

Equal Employment Opportunity Policy

Norfolk Southern Corporation's policy is to comply with all applicable laws, regulations, and executive orders concerning equal opportunity and nondiscrimination. The company's policy is to offer employment, training, remuneration, advancement, and all other privileges of employment on the basis of qualification and performance regardless of race, religion, color, national origin, gender, age, status as a covered veteran, sexual orientation, gender identity, the presence of a disability, genetic information, or any other legally protected status.

Alan H. Shaw

President & Chief Executive Officer

Ann A. Adams

Executive Vice President
& Chief Transformation Officer

Paul B. Duncan

Executive Vice President & Chief Operating Officer

Claude E. "Ed" Elkins

Executive Vice President & Chief Marketing Officer

Mark R. George

Executive Vice President & Chief Financial Officer

Nabanita C. Nag

Executive Vice President & Chief Legal Officer

Michael R. McClellan

Senior Vice President & Chief Strategy Officer

Edward F. "Ed" Boyle Jr.

Vice President Engineering

Michael F. "Mike" Cox

Vice President Taxation

Fredric M. "Fred" Ehlers

Vice President Information Technology
& Chief Information Officer

Jacob R. Elium

Vice President Network Planning & Optimization

John S. Hatfield

Vice President Corporate Communications

Floyd E. Hudson III

Vice President Transportation

James "Leggett" Kitchin

Vice President Industrial Products

Claiborne L. "Clay" Moore

Vice President & Controller

Rodney D. Moore

Vice President Network Operations

Jason M. Morris

Vice President Law

Christopher R. Neikirk

Vice President & Treasurer

Barbara N. Paul

Vice President Human Resources

Thomas W. "Tom" Schnautz

Vice President Advanced Train Control

Kathleen C. Smith

Vice President Business Development & Real Estate

Susan S. Stuart

Vice President Audit & Compliance

Shawn I. Tureman

Vice President Intermodal & Automotive

Frank J. Voyack

Vice President Government Relations

R. Wai Wong

Vice President Labor Relations

Jason A. Zampi

Vice President Financial Planning & Analysis

Denise W. Hutson

Corporate Secretary

STOCKHOLDER INFORMATION

Financial Inquiries

Mark R. George

Executive Vice President
& Chief Financial Officer
Norfolk Southern Corporation
650 W. Peachtree St. NW
Atlanta, GA 30308
470.463.4833

Investor Inquiries

Luke Nichols

Senior Director Investor Relations
Norfolk Southern Corporation
650 W. Peachtree St. NW
Atlanta, GA 30308
470.867.4807

Corporate Office

Norfolk Southern Corporation
650 W. Peachtree St. NW
Atlanta, GA 30308
855.NORFOLK or 855.667.3655

Shareholder Services Information

Norfolk Southern Corporation
Requests & Information
shareholder@nscorp.com
800.531.6757

COMMON STOCK

Ticker symbol: NSC
Our common stock is listed and traded on the New York Stock Exchange.

DIVIDENDS

At its January 2023 meeting, our board of directors declared a quarterly dividend of \$1.35 per share on the company's common stock, payable on Feb. 21, 2023, to shareholders of record on Feb. 3, 2023.

We reduced the days between shareholder of record date and payable date beginning in the second quarter of 2021, effectively accelerating payments to shareholders. We usually pay quarterly dividends on our common stock on or about Feb. 20, May 20, Aug. 20, and Nov. 20, when and if declared by our Board of Directors to shareholders of record. Through the end of 2022, we have paid 162 consecutive quarterly dividends since our inception in 1982.

ACCOUNT ASSISTANCE

For assistance with lost stock certificates, transfer requirements, the INVESTORS CHOICE Plan, address changes, dividend checks, and direct deposit of dividends, contact:

American Stock Transfer & Trust Company LLC

6201 15th Avenue
Brooklyn, NY 11219
877.864.4750

INVESTORS CHOICE

We and our transfer agent, American Stock Transfer & Trust Company LLC (AST), offer the INVESTORS CHOICE Plan for investors wishing to purchase or sell Norfolk Southern Corporation common stock. This plan is available to both present shareholders of record and individual investors wishing to make an initial purchase of Norfolk Southern Corporation common stock. Once enrolled in the plan, you can invest cash dividends when paid and make optional cash investments simply and conveniently.

To take advantage of the INVESTORS CHOICE Plan, contact AST at 877.864.4750 or visit <http://astfinancial.mobular.net/amstock/NSC/> to learn more about the INVESTORS CHOICE Plan.

PUBLICATIONS

The following reports and publications are available on our website at www.norfolksouthern.com and, upon written request, will be furnished in printed form to shareholders free of charge:

- Annual Reports on Form 10-K
- Quarterly Reports on Form 10-Q
- Corporate Governance Guidelines
- Board Committee Charters
- Thoroughbred Code of Ethics
- Code of Ethical Conduct for Senior Financial Officers
- Categorical Independence Standards for Directors
- Norfolk Southern Corporation Bylaws

Shareholders desiring a printed copy of one or more of these reports and publications should send their request to our corporate secretary:

Denise W. Hutson

Corporate Secretary
Norfolk Southern Corporation
650 W. Peachtree St. NW
Atlanta, GA 30308
470.463.0400

A notice and proxy statement for the annual meeting of shareholders are furnished to shareholders in advance of the meeting.

Amendments to or waivers of the Thoroughbred Code of Ethics and/or the Code of Ethical Conduct for Senior Financial Officers that are required to be disclosed pursuant to Item 5.05 of the current report on Form 8-K will be disclosed on our website.

ETHICS & COMPLIANCE HOTLINE

High ethical standards have always been key to our success. Anyone who might be aware of a violation of our corporation's Thoroughbred Code of Ethics is encouraged to contact our Ethics & Compliance Hotline at 800.732.9279.

FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report are "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, as amended. These statements relate to future events or financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results or performance to be materially different from those expressed or implied by any forward-looking statements. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "could," or other comparable terminology. We have based these forward-looking statements on our current expectations, assumptions, estimates, beliefs, and projections, which we believe are reasonable. However, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which involve factors or circumstances that are beyond our control. These and other important factors, including those discussed in Item 1A "Risk Factors," in the Form 10-K set forth herein, may cause actual results, performance, or achievements to differ materially from those expressed or implied by these forward-looking statements. The forward-looking statements herein are made only as of the date they were first issued, and unless otherwise required by applicable securities laws, we disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

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**

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 1-8339



NORFOLK SOUTHERN CORPORATION
(Exact name of registrant as specified in its charter)

Virginia
(State or other jurisdiction of incorporation or organization)

52-1188014

(I.R.S Employer Identification No.)

650 West Peachtree Street NW

Atlanta, Georgia

(Address of principal executive offices)

30308-1925

(Zip Code)

(855) 667-3655

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Norfolk Southern Corporation Common Stock (Par Value \$1.00)	NSC	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

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

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

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.

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).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the voting common equity held by non-affiliates at June 30, 2022 was \$53,336,433,209 (based on the closing price as quoted on the New York Stock Exchange on June 30, 2022).

The number of shares outstanding of each of the registrant's classes of common stock, at January 31, 2023: 227,782,202 (excluding 20,320,777 shares held by the registrant's consolidated subsidiaries).

DOCUMENTS INCORPORATED BY REFERENCE: Portions of the Registrant's definitive proxy statement to be filed electronically pursuant to Regulation 14A not later than 120 days after the end of the fiscal year, are incorporated herein by reference in Part III.

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PART I

NORFOLK SOUTHERN CORPORATION AND SUBSIDIARIES

Item 1. Business and Item 2. Properties

GENERAL – Norfolk Southern Corporation (Norfolk Southern) is an Atlanta, Georgia-based company that owns a major freight railroad, Norfolk Southern Railway Company (NSR). We were incorporated on July 23, 1980, under the laws of the Commonwealth of Virginia. Our common stock (Common Stock) is listed on the New York Stock Exchange (NYSE) under the symbol “NSC.”

Unless indicated otherwise, Norfolk Southern Corporation and its subsidiaries, including NSR, are referred to collectively as NS, we, us, and our.

We are primarily engaged in the rail transportation of raw materials, intermediate products, and finished goods primarily in the Southeast, East, and Midwest and, via interchange with rail carriers, to and from the rest of the United States (U.S.). We also transport overseas freight through several Atlantic and Gulf Coast ports. We offer the most extensive intermodal network in the eastern half of the U.S.

We make available free of charge through our website, www.norfolksouthern.com, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the U.S. Securities and Exchange Commission (SEC). In addition, the following documents are available on our website and in print to any shareholder who requests them:

- Norfolk Southern Corporation Bylaws
- Charters of the Committees of the Board of Directors
- Corporate Governance Guidelines
- Categorical Independence Standards
- The Thoroughbred Code of Ethics
- Code of Ethical Conduct for Senior Financial Officers

RAILROAD OPERATIONS – At December 31, 2022, we operated approximately 19,100 route miles in 22 states and the District of Columbia.

Our system reaches many manufacturing plants, electric generating facilities, mines, distribution centers, transload facilities, and other businesses located in our service area.



Corridors with heaviest freight volume:

- New York City area to Chicago (via Allentown and Pittsburgh)
- Chicago to Macon (via Cincinnati, Chattanooga, and Atlanta)
- Central Ohio to Norfolk (via Columbus and Roanoke)
- Birmingham to Meridian
- Cleveland to Kansas City
- Memphis to Chattanooga

The miles operated, which include major leased lines between Cincinnati and Chattanooga, and an exclusive operating agreement for trackage rights over property owned by North Carolina Railroad Company, were as follows:

Mileage Operated at December 31, 2022					
	Route Miles	Second and Other Main Track	Passing Track, Crossovers and Turnouts	Way and Yard Switching	Total
Owned	14,312	2,676	1,957	8,158	27,103
Operated under lease, contract or trackage rights	4,825	1,889	406	841	7,961
Total	19,137	4,565	2,363	8,999	35,064

We operate freight service over lines with significant ongoing Amtrak and commuter passenger operations and conduct freight operations over trackage owned or leased by Amtrak, New Jersey Transit, Southeastern Pennsylvania Transportation Authority, Metro-North Commuter Railroad Company, Maryland Department of Transportation, and Michigan Department of Transportation.

The following table sets forth certain statistics relating to our operations for the past five years:

	Years ended December 31,				
	2022	2021	2020	2019	2018
Revenue ton miles (billions)	179	178	164	194	207
Revenue per thousand revenue ton miles	\$ 71.35	\$ 62.56	\$ 59.67	\$ 58.21	\$ 55.25
Revenue ton miles (thousands) per railroad employee	9,513	9,694	8,191	7,939	7,822
Ratio of railway operating expenses to railway operating revenues (railway operating ratio)	62.3%	60.1%	69.3%	64.7%	65.4%

RAILWAY OPERATING REVENUES – Total railway operating revenues were \$12.7 billion in 2022.

Following is an overview of our three commodity groups. See the discussion of merchandise revenues by major commodity group, intermodal revenues, and coal revenues and tonnage in Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

MERCHANDISE – Our merchandise commodity group is composed of four groupings:

- Agriculture, forest and consumer products includes soybeans, wheat, corn, fertilizer, livestock and poultry feed, food products, food oils, flour, sweeteners, ethanol, lumber and wood products, pulp board and paper products, wood fibers, wood pulp, beverages, and canned goods.
- Chemicals includes sulfur and related chemicals, petroleum products (including crude oil), chlorine and bleaching compounds, plastics, rubber, industrial chemicals, chemical wastes, sand, and natural gas liquids.
- Metals and construction includes steel, aluminum products, machinery, scrap metals, cement, aggregates, minerals, clay, transportation equipment, and items for the U.S. military.
- Automotive includes finished motor vehicles and automotive parts.

In 2022, we handled 2.2 million merchandise carloads, which accounted for 57% of our total railway operating revenues.

INTERMODAL – Our intermodal commodity group consists of shipments moving in domestic and international containers and trailers. These shipments are handled on behalf of intermodal marketing companies, international steamship lines, premium customers and asset-owning companies. In 2022, we handled 3.9 million intermodal units, which accounted for 29% of our total railway operating revenues.

COAL – Coal revenues accounted for 14% of our total railway operating revenues in 2022. We handled 77 million tons, or 0.7 million carloads, most of which originated on our lines from major eastern coal basins, with the balance from major western coal basins received via the Memphis and Chicago gateways. Our coal franchise supports the electric generation market, directly serving approximately 30 coal-fired power plants, as well as the export, domestic metallurgical and industrial markets, primarily through direct rail and river, lake, and coastal facilities, including various terminals on the Ohio River, at Lamberts Point in Norfolk, Virginia, at the Port of Baltimore, and on Lake Erie.

FREIGHT RATES – Our predominant pricing mechanisms, private contracts and exempt price quotes, are not subject to regulation. In general, market forces are the primary determinant of rail service prices.

RAILWAY PROPERTY

Our railroad infrastructure makes us capital intensive with net properties of approximately \$32 billion on a historical cost basis.

Property Additions – Property additions for the past five years were as follows:

	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
	<i>(\$ in millions)</i>				
Road and other property	\$ 1,345	\$ 1,041	\$ 1,046	\$ 1,371	\$ 1,276
Equipment	603	429	448	648	675
Total	<u>\$ 1,948</u>	<u>\$ 1,470</u>	<u>\$ 1,494</u>	<u>\$ 2,019</u>	<u>\$ 1,951</u>

Our capital spending and replacement programs are and have been designed to assure the ability to provide safe, efficient, and reliable rail transportation services.

Equipment – At December 31, 2022, we owned or leased the following units of equipment:

	<u>Owned</u>	<u>Leased</u>	<u>Total</u>	<u>Capacity of Equipment</u>
Locomotives:				(Horsepower)
Multiple purpose	3,046	—	3,046	11,845,600
Auxiliary units	140	—	140	—
Switching	4	—	4	4,400
	<u>3,190</u>	<u>—</u>	<u>3,190</u>	<u>11,850,000</u>
Freight cars:				(Tons)
Gondola	17,391	2,836	20,227	2,265,085
Hopper	7,818	—	7,818	892,800
Covered hopper	5,571	—	5,571	619,424
Box	2,530	703	3,233	295,536
Flat	1,390	676	2,066	152,719
Other	1,555	—	1,555	69,649
	<u>36,255</u>	<u>4,215</u>	<u>40,470</u>	<u>4,295,213</u>
Other:				
Chassis	35,393	1,100	36,493	
Containers	18,047	—	18,047	
Work equipment	5,408	243	5,651	
Vehicles	2,976	14	2,990	
Miscellaneous	2,243	—	2,243	
	<u>64,067</u>	<u>1,357</u>	<u>65,424</u>	

The following table indicates the number and year built for locomotives and freight cars owned at December 31, 2022:

	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2013- 2017</u>	<u>2008- 2012</u>	<u>2007 & Before</u>	<u>Total</u>
Locomotives:									
No. of units	—	1	10	36	15	260	231	2,637	3,190
% of fleet	—%	—%	—%	1%	1%	8%	7%	83%	100%
Freight cars:									
No. of units	236	—	—	200	—	4,202	8,843	22,774	36,255
% of fleet	1%	—%	—%	—%	—%	12%	24%	63%	100%

The following table shows the average age of our owned locomotive and freight car fleets at December 31, 2022 and information regarding 2022 retirements:

	<u>Locomotives</u>	<u>Freight Cars</u>
Average age – in service	27.6 years	25.9 years
Retirements	22 units	1,209 units
Average age – retired	25.2 years	45.5 years

Track Maintenance – Of the 35,100 total miles of track on which we operate, we are responsible for maintaining 28,400 miles, with the remainder being operated under trackage rights from other parties responsible for maintenance.

Over 85% of the main line trackage (including first, second, third, and branch main tracks, all excluding rail operated pursuant to trackage rights) has rail ranging from 131 to 155 pounds per yard with the standard installation currently at 136 pounds per yard. Approximately 40% of our lines, excluding rail operated pursuant to trackage rights, carried 20 million or more gross tons per track mile during 2022.

The following table summarizes several measurements regarding our track roadway additions and replacements during the past five years:

	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
Track miles of rail installed	541	458	418	449	416
Miles of track surfaced	4,155	4,225	4,785	5,012	4,594
Crossties installed (millions)	2.2	2.0	1.8	2.4	2.2

Traffic Control – Of the 16,200 route miles we dispatch, 11,300 miles are signalized, including 8,500 miles of centralized traffic control (CTC) and 2,800 miles of automatic block signals. Of the 8,500 miles of CTC, 7,600 miles are controlled by data radio originating at 355 base station radio sites.

ENVIRONMENTAL MATTERS – Compliance with federal, state, and local laws and regulations relating to the protection of the environment is one of our principal goals. To date, such compliance has not had a material effect on our financial position, results of operations, liquidity, or competitive position. See Note 17 to the Consolidated Financial Statements.

HUMAN CAPITAL MANAGEMENT

Workforce – We employed an average of 18,900 employees during 2022, and 19,300 employees at the end of 2022. Approximately 80% of our railroad employees – referred to as “craft” employees – are covered by collective bargaining agreements with various labor unions. See the discussion of “Labor Agreements” in Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The remainder of our workforce is composed of management employees.

Craft Workforce Levels and Productivity – Maintaining appropriate headcount levels for our craft-employee workforce is critical to our on-time and consistent delivery of customers’ goods and operational efficiency goals. We manage this human capital metric through forecasting tools designed to ensure the optimal level of staffing to meet business demands. We measure and monitor employee productivity based on various factors, including gross ton miles per train and engine employee.

Safety – We are dedicated to providing employees with a safe workplace and the knowledge and tools they need to work safely and return home safely every day. Our commitment to an injury-free workplace is outlined in our Foundation of Safety policy which focuses on rules compliance, responsibility, relationships, and responsiveness. Our safety programs, practices, and messaging further reinforces the importance of working safely. We measure

employee safety performance through internal metrics such as accidents, injuries, and serious injuries per 200,000 employee-hours. We also use metrics established by the Federal Railroad Administration (FRA) to measure FRA reportable accidents and injuries per 200,000 employee-hours. Given the importance of safety among our workforce and business, in 2020, our Board of Directors established a standing Safety Committee that, among other duties, reviews, monitors, and evaluates our compliance with our safety programs and practices.

Attracting and Retaining Management Employees – Our talent strategy for management employees is essential to attracting strong candidates in a competitive talent environment. We evaluate the effectiveness of that strategy by studying market trends, benchmarking the attractiveness of our employee value proposition, maintaining a competitive compensation package, and analyzing retention data.

We also focus on driving employee engagement, which is key to increasing employee productivity, retention, and safety. We take a data-centric approach, including the use of quarterly surveys among management employees, to identify new initiatives that will help boost engagement and drive business results.

Employee Development and Training – We provide a range of developmental programs, opportunities, skills, and resources for our employees to be successful in their careers. We provide classroom instruction, hands-on training and simulation-based training designed to improve training effectiveness and safety outcomes.

We also use modern learning and performance technologies to offer robust professional growth opportunities. Through on-demand digital course offerings, custom-built learning paths, and performance-management tools, our platforms deliver a contemporary, convenient, and inclusive approach to professional development.

Diversity, Equity, and Inclusion – As a leading transportation service company, we understand that competing in the global marketplace requires recruiting the most qualified, talented, and diverse people. We strive to create a diverse, equitable, and inclusive workplace where a wide range of perspectives and experiences are represented, valued, and empowered to thrive.

While our current workforce reflects a broad range of backgrounds and experiences, we continue to focus on building an even more diverse workforce, using technology-driven outreach and multiple recruiting relationships to maintain a robust pipeline of diverse talent.

To underscore our commitment to cultivating a workplace experience where the unique experiences, perspectives, and contributions of all our people are valued, our CEO recently signed the CEO Action for Diversity & Inclusion pledge, which outlines specific actions to create a welcoming environment for discussions and ideas about diversity and inclusion. To advance that commitment, senior leaders from across the company serve on an Inclusion Leadership Council, which partners with the Diversity, Equity, and Inclusion Strategy team in implementing our enterprise inclusion strategy, articulating measurable goals, and holding ourselves accountable.

GOVERNMENT REGULATION – In addition to environmental, safety, securities, and other regulations generally applicable to all business, our railroads are subject to regulation by the U.S. Surface Transportation Board (STB). The STB has jurisdiction to varying extents over rates, routes, customer access provisions, fuel surcharges, conditions of service, and the extension or abandonment of rail lines. The STB has jurisdiction to determine whether we are “revenue adequate” on an annual basis based on the results of the prior year. A railroad is “revenue adequate” on an annual basis under the applicable law when its return on net investment exceeds the rail industry’s composite cost of capital. This determination is made pursuant to a statutory requirement. The STB also has jurisdiction over the consolidation, merger, or acquisition of control of and by rail common carriers.

The relaxation of economic regulation of railroads, following the Staggers Rail Act of 1980, included exemption from STB regulation of the rates and most service terms for intermodal business (trailer-on-flat-car, container-on-flat-car), rail boxcar shipments, lumber, manufactured steel, automobiles, and certain bulk commodities such as sand, gravel, pulpwood, and wood chips for paper manufacturing. Further, all shipments that we have under contract are effectively removed from commercial regulation for the duration of the contract. Approximately 90%

of our revenues comes from either exempt shipments or shipments moving under transportation contracts; the remainder comes from shipments moving under public tariff rates.

Efforts have been made over the past several years to increase federal economic regulation of the rail industry, and such efforts are expected to continue in 2023. The Staggers Rail Act of 1980 substantially balanced the interests of shippers and rail carriers, and encouraged and enabled rail carriers to innovate, invest in their infrastructure, and compete for business, thereby contributing to the economic health of the nation and to the revitalization of the industry. Accordingly, we will continue to oppose efforts to reimpose increased economic regulation.

Railroads are also subject to the enactment of laws by Congress and regulation by the U.S. Department of Transportation (DOT) (including the Federal Railroad Administration) and the U.S. Department of Homeland Security (DHS) (including the Transportation Security Administration (TSA)), which regulate most aspects of our operations related to safety, security and cybersecurity.

Government regulations are further discussed within Item 1A “Risk Factors” and the safety and security of our railroads are discussed within the “Security of Operations” section contained herein.

COMPETITION – There is continuing strong competition among rail, water, and highway carriers. Price is usually only one factor of importance as shippers and receivers choose a transport mode and specific hauling company. Inventory carrying costs, service reliability, ease of handling, and the desire to avoid loss and damage during transit are also important considerations, especially for higher-valued finished goods, machinery, and consumer products. Even for raw materials, semi-finished goods, and work-in-progress, users are increasingly sensitive to transport arrangements that minimize problems at successive production stages.

Our primary rail competitor is CSX Corporation (CSX); both we and CSX operate throughout much of the same territory. Other railroads also operate in parts of the territory. We also compete with motor carriers, water carriers, and with shippers who have the additional options of handling their own goods in private carriage, sourcing products from different geographic areas, and using substitute products.

Certain marketing strategies to expand reach and shipping options among railroads and between railroads and motor carriers enable railroads to compete more effectively in specific markets.

SECURITY OF OPERATIONS – We continue to enhance the security of our rail system. Our comprehensive security plan is modeled on and was developed in conjunction with the security plan prepared by the Association of American Railroads (AAR) post September 11, 2001. The AAR Security Plan defines four Alert Levels and details the actions and countermeasures that are being applied across the railroad industry to mitigate the risk of terrorist, violent extremist or seriously disruptive cyber-attack increases or decreases. The Alert Level actions include countermeasures that will be applied in three general areas: (1) operations (including transportation, engineering, and mechanical); (2) information technology and communications; and, (3) railroad police. All of our Operations Division employees are advised by their supervisors or train dispatchers, as appropriate, of any change in Alert Level and any additional responsibilities they may incur due to such change.

Our security plan also complies with DOT security regulations pertaining to training and security plans with respect to the transportation of hazardous materials. As part of the plan, security awareness training is given to all railroad employees who directly affect hazardous material transportation safety, and is integrated into hazardous material training programs. Additionally, location-specific security plans are in place for rail corridors in certain metropolitan areas referred to as High Threat Urban Areas (HTUA). Particular attention is aimed at reducing risk in a HTUA by: (1) the establishment of secure storage areas for rail cars carrying toxic-by-inhalation (TIH) materials; (2) the expedited movement of trains transporting rail cars carrying TIH materials; (3) reducing the number of unattended loaded tank cars carrying TIH materials; and (4) cooperation with federal, state, local, and tribal governments to identify those locations where security risks are the highest.

We also operate four facilities that are under U.S. Coast Guard (USCG) Maritime Security Regulations. With respect to these facilities, each facility's security plan has been approved by the applicable Captain of the Port and remains subject to inspection by the USCG.

Additionally, we continue to engage in close and regular coordination with numerous federal and state agencies, including the DHS, the TSA, the Federal Bureau of Investigation, the FRA, the USCG, U.S. Customs and Border Protection, the Department of Defense, and various state Homeland Security offices.

In 2022, through the Norfolk Southern Operation Awareness and Response Program as well as participation in the Transportation Community Awareness and Emergency Response Program, we provided rail accident response training to approximately 5,000 emergency responders, such as local police and fire personnel, utilizing a combination of online training and face-to-face training sessions as well as the Norfolk Southern Safety Train. We also have ongoing programs to sponsor local emergency responders at the Security and Emergency Response Training Center.

We also continually evaluate ourselves for appropriate business continuity and disaster recovery planning, with test scenarios that include cybersecurity attacks. Our risk-based information security program helps ensure our defenses and resources are aligned to address the most likely and most damaging potential attacks, to provide support for our organizational mission and operational objectives, and to keep us in the best position to detect, mitigate, and recover from a wide variety of potential attacks in a timely fashion.

Item 1A. Risk Factors

The risks set forth in the following risk factors could have a material adverse effect on our financial position, results of operations, or liquidity in a particular year or quarter, and could cause those results to differ materially from those expressed or implied in our forward-looking statements. The information set forth in this Item 1A "Risk Factors" should be read in conjunction with the rest of the information included in this annual report, including Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Item 8 "Financial Statements and Supplementary Data."

REGULATORY AND LEGISLATIVE RISKS

Governmental legislation, regulation, and Executive Orders over commercial, operational, tax, safety, security, or cybersecurity matters could negatively affect us, our customers, the rail industry or the markets we serve. Congress can enact laws, agencies can promulgate regulations, and Executive Orders can be issued that increase or alter regulation that negatively affects us, our customers, the rail industry or the markets we serve. Railroads presently are subject to commercial and operational regulation by the STB, which has jurisdiction to varying extents over rates, routes, customer access provisions, fuel surcharges, conditions of service, and the extension or abandonment of rail lines.

The STB also has jurisdiction over the consolidation, merger, or acquisition of control of and by rail common carriers. Additional or updated regulation of the rail industry by Congress or the STB, whether under new, existing or amended laws or regulations, could have a significant negative impact on our ability to negotiate prices for rail services, on our railway operating revenues, and on the efficiency, conduct, or complexity of our operations. Such additional or updated industry regulation, as well as enactment of any new or updated tax laws, could also negatively impact cash flows from our operating activities and, therefore, result in reduced capital spending on our rail network or abandonment of lines.

Railroads are also subject to the enactment of laws by Congress and regulation by the DOT (including the FRA) and the DHS (including the TSA), which regulate many aspects of our operations related to safety, security and cybersecurity. Additional or updated safety, security, or cybersecurity regulation by Congress, the DOT or DHS could have a negative impact on our business and the efficiency, conduct, or complexity of our operations including (but not limited to) increased operating costs, capital expenditures, claims and litigation.

Our inability to comply with the requirements of existing or updated laws, regulations, or Executive Orders that govern our operations or the rail industry, including but not limited to those pertaining to commercial, operational, tax, safety, security, or cybersecurity matters, could have a material adverse effect on our financial position, results of operations or liquidity.

Federal and state environmental laws and regulations could negatively impact us and our operations. Our operations are subject to extensive federal and state environmental laws and regulations concerning, among other things: emissions to the air; discharges to waterways or groundwater supplies; handling, storage, transportation, and disposal of waste and other materials; and, the cleanup of hazardous material or petroleum releases. The risk of incurring environmental liability, for acts and omissions, past, present, and future, is inherent in the railroad business. This risk includes property owned by us, whether currently or in the past, that is or has been subject to a variety of uses, including our railroad operations and other industrial activity by past owners or our past and present tenants.

Environmental problems that are latent or undisclosed may exist on these properties, and we could incur environmental liabilities or costs, the amount and materiality of which cannot be estimated reliably at this time, with respect to one or more of these properties. Moreover, lawsuits and claims involving other unidentified environmental sites and matters are likely to arise from time to time.

Our inability to comply with the extensive federal and state environmental laws and regulations to which we are subject could result in significant liabilities or otherwise adversely impact our operations.

OPERATIONAL RISKS

Pandemics, epidemics or endemic diseases could further negatively impact us, our customers, our supply chain and our operations. The magnitude and duration of a pandemic, epidemic or endemic disease, and its impact on our customers and general economic conditions can influence the demand for our services and affect our revenues. In addition, such outbreaks could affect our operations and business continuity if a significant number of our essential employees, overall or in a key location, are quarantined from contraction of or exposure to the disease or if governmental orders prevent our employees or critical suppliers from working. To the extent such diseases adversely affect our business and financial results, they may also have the effect of heightening many of the other risks described in the risk factors included herein, or may affect our operating and financial results in a manner that is not presently known to us.

A significant cybersecurity incident or other disruption to our technology infrastructure could disrupt our business operations. We rely on information technology, and improvements in that technology, in all aspects of our business. If we experience significant disruption or failure of one or more of information technology systems operated by us or under control of third parties, including computer hardware, software, and communications equipment, we could experience a service interruption, data breach, or other operational difficulties. Although we maintain comprehensive security programs designed to protect our information technology systems, we are continually targeted by threat actors attempting to access our networks. While we have previously experienced cybersecurity events that have had minimal impact, future events may result in more significant impacts to our operations, reputation or results of operations. These potentially impactful events could include unauthorized access to our systems, viruses, ransomware, and/or compromise, acquisition, or destruction of our data. We also could be impacted by cybersecurity events targeting third parties that we rely on for business operations, including third party vendors that have access to our systems or data and third parties in our supply chain. Such a direct or indirect cybersecurity incident could interrupt our service, cause safety failures or operational difficulties, decrease revenues, increase operating costs, impact our efficiency, damage our corporate reputation, and/or expose us to litigation or government action or increased regulation, which could result in penalties, fines or judgments. In addition, our failure to comply with privacy-related or data protection laws and regulations could result in government investigations and proceedings against us, or litigation, resulting in adverse reputational impacts, penalties, and legal liability.

Our business may be seriously harmed if we fail to develop, implement, maintain, upgrade, enhance, protect and integrate our information technology systems. If we fail to develop, acquire or implement new technology, or otherwise fail to maintain, protect or integrate our information technology systems, we may suffer a competitive disadvantage within the rail industry and with companies providing alternative modes of transportation service.

As a common carrier by rail, we must offer to transport hazardous materials, regardless of risk.

Transportation of certain hazardous materials could create catastrophic losses in terms of personal injury and property (including environmental) damage and compromise critical parts of our rail network. The costs of a catastrophic rail accident involving hazardous materials could exceed our insurance coverage. We have obtained insurance for potential losses for third-party liability and first-party property damages (see Note 17 to the Consolidated Financial Statements); however, insurance is available from a limited number of insurers and may not continue to be available or, if available, may not be obtainable on terms acceptable to us.

We face competition from other transportation providers. We are subject to competition from motor carriers, railroads and, to a lesser extent, ships, barges, and pipelines, on the basis of transit time, pricing, and quality and reliability of service. While we have primarily used internal resources to build or acquire and maintain our rail system, trucks and barges have been able to use public rights-of-way maintained by public entities. Any future improvements, expenditures, legislation, or regulation changing or materially increasing the efficiency or reducing the cost of one or more alternative modes of transportation in the regions in which we operate (such as granting materially greater latitude for motor carriers with respect to size or weight limitations or adoption and utilization of autonomous commercial vehicles) could have a material adverse effect on our ability to compete with other modes of transportation.

Capacity constraints could negatively impact our service and operating efficiency. We have experienced and may again experience capacity constraints on our rail network related to employee or equipment shortages, increased demand for rail services, severe weather, congestion on other railroads, including passenger activities, or impacts from changes to our network structure or composition. Such constraints could result in operational inefficiencies or adversely affect our operations.

Significant increases in demand for rail services could result in the unavailability of qualified personnel and resources like locomotives. Changes in workforce demographics, training requirements, and availability of qualified personnel, particularly for engineers and conductors, have negatively impacted and may again negatively impact our ability to meet short-term demand for rail service. Unpredicted increases in demand for rail services may exacerbate such risks and could negatively impact our operational efficiency.

Constraints on the supply chain or the operations of carriers with which we interchange may adversely affect our operations. Our ability to provide rail service to our customers depends in large part upon a functioning global supply chain and our ability to maintain collaborative relationships with connecting carriers (including shortlines and regional railroads) with respect to, among other matters, freight rates, revenue division, car supply and locomotive availability, data exchange and communications, reciprocal switching, interchange, and trackage rights. Deterioration in the supply chain or operations of or service provided by connecting carriers, or in our relationship with those connecting carriers, could result in our inability to meet our customers' demands or require us to use alternate train routes, which could result in significant additional costs and network inefficiencies. Additionally, any significant consolidations, mergers or operational changes among other railroads may significantly redefine our market access and reach.

We may be negatively affected by terrorism or war. Any terrorist attack, or other similar event, any government response thereto, and war or risk of war could cause significant business interruption. Because we play a critical role in the nation's transportation system, we could become the target of such an attack or have a significant role in the government's preemptive approach or response to an attack or war.

Although we currently maintain insurance coverage for third-party liability arising out of war and acts of terrorism, we maintain only limited insurance coverage for first-party property damage and damage to property in our care,

custody, or control caused by certain acts of terrorism. In addition, premiums for some or all of our current insurance programs covering these losses could increase dramatically, or insurance coverage for certain losses could be unavailable to us in the future.

We may be negatively affected by supply constraints resulting from disruptions in the fuel markets or the nature of some of our supplier markets. We consumed approximately 376 million gallons of diesel fuel in 2022. Fuel availability could be affected by limitation in the fuel supply or by imposition of mandatory allocation or rationing regulations. A severe fuel supply shortage arising from production curtailments, increased demand in existing or emerging foreign markets, disruption of oil imports, disruption of domestic refinery production, damage to refinery or pipeline infrastructure, political unrest, war or other factors could impact us as well as our customers and other transportation companies.

Due to the capital-intensive nature, as well as the industry-specific requirements of the rail industry, high barriers of entry exist for potential new suppliers of core railroad items, such as locomotives and rolling stock equipment. Additionally, we compete with other industries for available capacity and raw materials used in the production of locomotives and certain track and rolling stock materials. Changes in the competitive landscapes of these limited supplier markets could result in increased prices or significant shortages of materials.

LITIGATION RISKS

We may be subject to various claims and lawsuits that could result in significant expenditures. The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, commercial disputes, freight loss and other property damage, and other matters. Job-related personal injury and occupational claims are subject to the Federal Employer's Liability Act (FELA), which is applicable only to railroads. FELA's fault-based tort system produces results that are unpredictable and inconsistent as compared with a no-fault worker's compensation system. The variability inherent in this system could result in actual costs being different from the liability recorded.

A catastrophic rail accident, whether on our lines or another carrier's, involving any or all of release of hazardous materials, freight loss, property damage, personal injury, and environmental liability could compromise critical parts of our rail network. Losses associated with such an accident involving us could exceed our insurance coverage, resulting in a material adverse effect on our liquidity. Any material changes to current litigation trends could also have a material adverse effect on our liquidity to the extent not covered by insurance.

We have obtained insurance for potential losses for third-party liability and first-party property damages; however, insurance is available from a limited number of insurers and may not continue to be available or, if available, may not be obtainable on terms acceptable to us.

HUMAN CAPITAL RISKS

The vast majority of our employees belong to labor unions, and the renegotiation of labor agreements or any provisions thereof, or any strikes or work stoppages (including any entered into in connection with any such negotiations), could adversely affect our operations. Approximately 80% of our railroad employees are covered by collective bargaining agreements with various labor unions. Although we recently entered into updated labor agreements with these labor unions, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could significantly increase our costs for health care, wages, and other benefits. Additionally, if our craft employees were to engage in a strike, work stoppage, or other slowdown, including in connection with the renegotiation of any such agreements or any provisions thereof, we could experience a significant disruption in our operations, thereby adversely impacting our results of operations.

Failure to attract and retain key executive officers, or skilled professional or technical employees could adversely impact our business and operations. Our success depends on our ability to attract and retain skilled employees, including a sufficient number of craft employees to enable us to efficiently conduct our operations.

Difficulties in recruiting and retaining skilled employees, including train and engine workers, key executives, and other skilled professional and technical employees; the unexpected loss of such individuals; and/or our inability to successfully transition key roles could each have a material adverse effect on our business and operations.

CLIMATE CHANGE RISKS

Severe weather and disasters have caused, and could again cause, significant business interruptions and expenditures. Severe weather conditions and other natural phenomena resulting from changing weather patterns and rising sea levels or other causes, including hurricanes, floods, fires, landslides, extreme temperatures, significant precipitation, and earthquakes, have caused, and may again cause damage to our network, our workforce to be unavailable and us to be unable to use our equipment. Additionally, shifts in weather patterns caused by climate change are expected to increase the frequency, severity or duration of certain adverse weather conditions, which could cause more significant business interruptions that result in increased costs, increased liabilities, and decreased revenues.

Concern over climate change has led to significant federal, state, and international legislative and regulatory efforts to limit greenhouse gas (GHG) emissions. Restrictions, caps, taxes, or other legislative or regulatory controls on GHG emissions, including diesel exhaust, could significantly increase our operating costs and decrease the amount of traffic we handle.

In addition, legislation and regulation related to climate change or GHG emissions could negatively affect the markets we serve and our customers. Even without legislation or regulation, government incentives and adverse publicity relating to climate change or GHG emissions could negatively affect the markets for certain of the commodities we carry, or our customers that use commodities we carry to produce energy (including coal), use significant amounts of energy in producing or delivering the commodities we carry, or manufacture or produce goods that consume significant amounts of energy associated with GHG emissions.

MACROECONOMIC AND MARKET RISKS

We may be negatively impacted by changes in general economic conditions. Negative changes in domestic and global economic conditions, including reduced import and export volumes, could affect the producers and consumers of the freight we carry. Economic conditions could also result in bankruptcies of one or more large customers.

We may be negatively affected by energy prices. Volatility in energy prices could have a significant effect on a variety of items including, but not limited to: the economy; demand for transportation services; business related to the energy sector, including crude oil, natural gas, and coal; fuel prices; and, fuel surcharges.

The state of capital markets could adversely affect our liquidity. We rely on the capital markets to provide some of our capital requirements, including the issuance of debt instruments and the sale of certain receivables. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial position due to internal or external factors could restrict or eliminate our access to, and/or significantly increase the cost of, various financing sources, including bank credit facilities and issuance of corporate bonds. Instability or disruptions of the capital markets and deterioration of our financial position, alone or in combination, could also result in a reduction of our credit rating to below investment grade, which could prohibit or restrict us from accessing external sources of short- and long-term debt financing and/or significantly increase the associated costs.

Item 1B. Unresolved Staff Comments

None.

Item 3. Legal Proceedings

For information on our legal proceedings, see Note 17 “Commitments and Contingencies” in the Consolidated Financial Statements.

Item 4. Mine Safety Disclosures

Not applicable.

Information About Our Executive Officers

Our executive officers generally are elected and designated annually by the Board of Directors (Board) at its first meeting held after the annual meeting of stockholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year as the Board considers appropriate. There are no family relationships among our officers, nor any arrangement or understanding between any officer and any other person pursuant to which the officer was selected. The following table sets forth certain information, at February 1, 2023, relating to our officers.

Name, Age, Present Position	Business Experience During Past Five Years
Alan H. Shaw, 55, President and Chief Executive Officer	Present position since May 1, 2022. Served as President from December 1, 2021 to May 1, 2022. Served as Executive Vice President and Chief Marketing Officer from May 16, 2015 to December 1, 2021.
Ann A. Adams, 52, Executive Vice President and Chief Transformation Officer	Present position since April 1, 2019. Served as Vice President Human Resources from April 1, 2016 to April 1, 2019.
Paul B. Duncan, 43, Executive Vice President and Chief Operating Officer	Present position since January 1, 2023. Served as Senior Vice President Transportation & Network Operations from September 1, 2022 to January 1, 2023. Served as Vice President Network Planning & Operations from March 1, 2022 to September 1, 2022. Prior to joining Norfolk Southern, served as Vice President of Service Design and Performance for BNSF Railway from October 1, 2018 to March 1, 2022 and as Assistant Vice President for Capacity Planning from June 1, 2015 to October 1, 2018.
Claude E. Elkins, Jr., 57, Executive Vice President and Chief Marketing Officer	Present position since December 1, 2021. Served as Vice President Industrial Products from April 1, 2018 to December 1, 2021. Served as Group Vice President Chemicals from March 1, 2016 to April 1, 2018.
Mark R. George, 55, Executive Vice President and Chief Financial Officer	Present position since November 1, 2019. Prior to joining Norfolk Southern, served as Vice President, Finance and Chief Financial Officer at segments of United Technologies Corporation. The positions were Vice President Finance, Strategy, IT and Chief Financial Officer at Otis Elevator Company from October 2015 to May 2019, and Vice President Finance and Chief Financial Officer at Carrier Corporation from June 2019 until joining Norfolk Southern.
Nabanita C. Nag, 47, Executive Vice President and Chief Legal Officer	Present position since July 1, 2022. Served as Senior Vice President & Chief Legal Officer from March 1, 2022 to July 1, 2022. Served as General Counsel - Corporate from August 31, 2020 to March 1, 2022. Prior to joining Norfolk Southern, served as Vice President & Corporate Counsel in the Financial Management Law Group at Prudential Financial from March 3, 2014 to August 1, 2020.
Claiborne L. Moore, 43, Vice President and Controller	Present position since March 1, 2022. Served as Assistant Vice President Corporate Accounting from March 15, 2019 to March 1, 2022. Served as Director Investor Relations from July 1, 2017 to March 15, 2019.

PART II

NORFOLK SOUTHERN CORPORATION AND SUBSIDIARIES

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

STOCK INFORMATION

Common Stock is owned by 19,796 stockholders of record as of December 31, 2022, and is traded on the New York Stock Exchange under the symbol "NSC."

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares (or Units) Purchased⁽¹⁾	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs⁽²⁾	Maximum Number (or Approximate Dollar Value) of Shares (or Units) that may yet be Purchased under the Plans or Programs⁽²⁾
October 1-31, 2022	1,027,142	\$ 217.12	1,027,142	\$ 8,092,825,748
November 1-30, 2022	1,023,706	243.00	1,023,706	7,844,066,906
December 1-31, 2022	1,422,612	249.05	1,422,438	7,489,805,905
Total	<u>3,473,460</u>		<u>3,473,286</u>	

⁽¹⁾ Of this amount, 174 represent shares tendered by employees in connection with the exercise of stock options under the stockholder-approved Long-Term Incentive Plan (LTIP).

⁽²⁾ On March 29, 2022, our Board of Directors authorized a new program for the repurchase of up to \$10.0 billion of Common Stock beginning April 1, 2022. As of December 31, 2022, \$7.5 billion remains authorized for repurchase. Our previous share repurchase program terminated on March 31, 2022.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Norfolk Southern Corporation and Subsidiaries

The following discussion and analysis should be read in conjunction with the Consolidated Financial Statements and Notes.

OVERVIEW

We are one of the nation’s premier transportation companies, moving goods and materials that help drive the U.S. economy. We connect customers to markets and communities to economic opportunity with safe, reliable, and cost-effective shipping solutions. Our Norfolk Southern Railway Company subsidiary operates in 22 states and the District of Columbia. We are a major transporter of industrial products, including agriculture, forest and consumer products, chemicals, and metals and construction materials. In addition, in the East we serve every major container port and operate the most extensive intermodal network. We are also a principal carrier of coal, automobiles, and automotive parts.

In 2022, revenue growth led to year-over-year improvements in income from operations, net income and diluted earnings per share. Throughout the year, we focused on efforts to increase our network fluidity and improve service for our customers. These efforts included the hiring of new conductors in a tight labor market and evolving our operating plan, which collectively drove improvements in our network performance as we concluded the year and is providing strong momentum going into 2023. Additionally, new labor agreements were secured by December 2022 which provided retroactive pay and other benefits for our craft employees. As we head into 2023, we are focused on providing reliable and resilient service and delivering smart sustainable revenue growth that will deliver long-term value to our customers and shareholders.

SUMMARIZED RESULTS OF OPERATIONS

	2022	2021	2020	2022 vs. 2021	2021 vs. 2020
	<i>(\$ in millions, except per share amounts)</i>			<i>(% change)</i>	
Income from railway operations	\$ 4,809	\$ 4,447	\$ 3,002	8%	48%
Net income	\$ 3,270	\$ 3,005	\$ 2,013	9%	49%
Diluted earnings per share	\$ 13.88	\$ 12.11	\$ 7.84	15%	54%
Railway operating ratio (percent)	62.3	60.1	69.3	4%	(13%)

Income from railway operations increased in 2022 compared to 2021, driven by higher railway operating revenues. Revenue growth was the result of higher fuel surcharge revenues and pricing gains, which more than offset the impact of volume declines. The rise in revenues was partly offset by increased railway operating expenses, driven by higher fuel prices, other inflationary pressures, service-related costs, increased labor-related costs primarily resulting from labor union negotiations, and higher claims-related expenses. Incremental expenses incurred in 2022 that resulted from finalized labor agreements for wages earned in 2021 and prior periods lowered diluted earnings per share by \$0.18. Additionally, net income includes a \$136 million deferred tax benefit resulting from a corporate income tax rate change in the Commonwealth of Pennsylvania, which increased diluted earnings per share by \$0.58. Our share repurchase activity resulted in the percentage increase in diluted earnings per share that exceeded that of net income. Railway operating ratio (a measure of the amount of operating revenues consumed by operating expenses) increased to 62.3 percent.

Income from railway operations increased in 2021 compared to 2020, the result of a 14% increase in railway operating revenues and a 1% reduction in railway operating expenses. Revenue growth was driven by increased average revenue per unit and higher volumes, the result of improved customer demand. The decline in railway

operating expenses was largely due to the absence of two charges, as 2020 results were adversely impacted by a \$385 million loss on asset disposal related to locomotives and a \$99 million impairment charge related to an equity method investment. For more information on these charges, see Notes 7 and 6, respectively. Higher fuel costs, purchased services, and compensation and benefits expense mostly offset the reduction associated with these charges. Additionally, gains on the sale of operating properties increased compared to 2020. The 48% increase in income from railway operations drove comparable increases in net income and diluted earnings per share. Our railway operating ratio decreased to 60.1 percent.

The following tables adjust our 2020 U.S. Generally Accepted Accounting Principles (GAAP) financial results to exclude the effects of the loss on asset disposal and investment impairment. The income tax effects on these non-GAAP adjustments were calculated based on the applicable tax rates to which the non-GAAP adjustments relate. We use these non-GAAP financial measures internally and believe this information provides useful supplemental information to investors to facilitate making period-to-period comparisons by excluding the 2020 charges. While we believe that these non-GAAP financial measures are useful in evaluating our business, this information should be considered as supplemental in nature and is not meant to be considered in isolation from, or as a substitute for, the related financial information prepared in accordance with GAAP. In addition, these non-GAAP financial measures may not be the same as similar measures presented by other companies.

Non-GAAP Reconciliation for 2020					
	Reported (GAAP)	Loss on Asset Disposal	Investment Impairment	Adjusted (non-GAAP)	
<i>(\$ in millions, except per share amounts)</i>					
Railway operating expenses	\$ 6,787	\$ (385)	\$ (99)	\$ 6,303	
Income from railway operations	\$ 3,002	\$ 385	\$ 99	\$ 3,486	
Income before income taxes	\$ 2,530	\$ 385	\$ 99	\$ 3,014	
Income taxes	\$ 517	\$ 97	\$ 25	\$ 639	
Net income	\$ 2,013	\$ 288	\$ 74	\$ 2,375	
Diluted earnings per share	\$ 7.84	\$ 1.12	\$ 0.29	\$ 9.25	
Railway operating ratio (percent)	69.3	(3.9)	(1.0)	64.4	

In the table below, references to 2020 results and related comparisons use the adjusted, non-GAAP results from the table above.

	2022	2021	Adjusted 2020 (non-GAAP)	2022 vs. 2021	2021 vs. Adjusted 2020 (non-GAAP)
<i>(\$ in millions, except per share amounts)</i>			<i>(% change)</i>		
Railway operating expenses	\$ 7,936	\$ 6,695	\$ 6,303	19%	6%
Income from railway operations	\$ 4,809	\$ 4,447	\$ 3,486	8%	28%
Income before income taxes	\$ 4,130	\$ 3,878	\$ 3,014	6%	29%
Income taxes	\$ 860	\$ 873	\$ 639	(1%)	37%
Net income	\$ 3,270	\$ 3,005	\$ 2,375	9%	27%
Diluted earnings per share	\$ 13.88	\$ 12.11	\$ 9.25	15%	31%
Railway operating ratio (percent)	62.3	60.1	64.4	4%	(7%)

DETAILED RESULTS OF OPERATIONS

Railway Operating Revenues

The following tables present a three-year comparison of revenues, volumes (units), and average revenue per unit by commodity group.

	Revenues			2022	2021
	2022	2021	2020	vs. 2021	vs. 2020
	(\$ in millions)			(% change)	
Merchandise:					
Agriculture, forest and consumer products	\$ 2,493	\$ 2,251	\$ 2,116	11%	6%
Chemicals	2,148	1,951	1,809	10%	8%
Metals and construction	1,652	1,562	1,333	6%	17%
Automotive	1,038	905	830	15%	9%
Merchandise	7,331	6,669	6,088	10%	10%
Intermodal	3,681	3,163	2,654	16%	19%
Coal	1,733	1,310	1,047	32%	25%
Total	\$ 12,745	\$ 11,142	\$ 9,789	14%	14%

	Units			2022	2021
	2022	2021	2020	vs. 2021	vs. 2020
	(in thousands)			(% change)	
Merchandise:					
Agriculture, forest and consumer products	723.0	725.5	704.4	—%	3%
Chemicals	540.1	529.7	482.0	2%	10%
Metals and construction	634.6	669.0	601.2	(5%)	11%
Automotive	339.1	345.4	329.7	(2%)	5%
Merchandise	2,236.8	2,269.6	2,117.3	(1%)	7%
Intermodal	3,913.1	4,104.1	3,992.1	(5%)	3%
Coal	684.6	658.0	574.1	4%	15%
Total	6,834.5	7,031.7	6,683.5	(3%)	5%

	Revenue per Unit			2022	2021
	2022	2021	2020	vs. 2021	vs. 2020
	(\$ per unit)			(% change)	
Merchandise:					
Agriculture, forest and consumer products	\$ 3,448	\$ 3,102	\$ 3,004	11%	3%
Chemicals	3,978	3,684	3,753	8%	(2%)
Metals and construction	2,604	2,334	2,216	12%	5%
Automotive	3,059	2,621	2,518	17%	4%
Merchandise	3,277	2,938	2,875	12%	2%
Intermodal	941	771	665	22%	16%
Coal	2,532	1,991	1,824	27%	9%
Total	1,865	1,584	1,465	18%	8%

Revenues increased \$1.6 billion in 2022 and \$1.4 billion in 2021 compared to the prior years. Higher revenue for 2022 was the result of increased average revenue per unit, driven by higher fuel surcharge revenue, pricing gains, improved mix, and increased intermodal storage service charges, partially offset by volume declines. In 2021, higher revenue was the result of increased average revenue per unit, driven by pricing gains, higher fuel surcharge revenue, increased intermodal storage service charges and improved mix, as well as volume growth.

The table below reflects the components of the revenue change by major commodity group.

	2022 vs. 2021			2021 vs. 2020		
	Increase (Decrease)			Increase (Decrease)		
	(\$ in millions)					
	Merchandise	Intermodal	Coal	Merchandise	Intermodal	Coal
Volume	\$ (96)	\$ (147)	\$ 53	\$ 438	\$ 75	\$ 153
Fuel surcharge revenue	455	417	79	91	178	4
Rate, mix and other	303	248	291	52	256	106
Total	<u>\$ 662</u>	<u>\$ 518</u>	<u>\$ 423</u>	<u>\$ 581</u>	<u>\$ 509</u>	<u>\$ 263</u>

Approximately 95% of our revenue base is covered by contracts that include negotiated fuel surcharges. Fuel surcharge revenues totaled \$1.6 billion, \$622 million, and \$349 million in 2022, 2021, and 2020, respectively. The increase in fuel surcharge revenues in 2022 and 2021 was driven by higher fuel commodity prices.

For 2023, we expect that revenue growth will be a challenge, as there is substantial economic uncertainty. Additionally, we expect revenue headwinds resulting from lower fuel prices, softening coal pricing, and declining storage service charges. In this difficult environment, we will continue to fight to increase revenue by recapturing truck-competitive freight and achieving pricing gains.

MERCHANDISE revenues increased in both 2022 and 2021 compared with the prior years. In 2022, revenues rose due to higher average revenue per unit, driven by higher fuel surcharge revenue and increased pricing, partially offset by lower volume. Decreased volumes in metal and construction and automotive shipments more than offset higher chemical shipments. In 2021, revenues rose due to increased volume and higher average revenue per unit driven by increased fuel surcharge revenue and pricing. Volumes increased in all merchandise commodity groups, reflecting economic recovery following the onset of the COVID-19 pandemic.

Agriculture, forest and consumer products revenues increased in both 2022 and 2021 compared with the prior years. In 2022, the rise was the result of increased average revenue per unit, the result of higher fuel surcharge revenue and pricing gains, while volumes were nearly flat. Declines in pulpboard, fertilizer, and pulp, were offset by increases in soybeans, feed, and corn. Pulpboard and pulp shipments declined due to decreased demand, equipment availability, service disruptions, and production down time. Lower fertilizer shipments were driven by high fertilizer prices causing customers to draw down on existing inventories or delay purchases as well as production disruptions. Soybean volumes were higher due to increased opportunity for exports. Feed shipments were higher due to increased customer demand. Increased corn shipments were due to improved equipment cycle times. In 2021, higher revenues were the result of higher volume across almost all markets, as the economy improved from the early months of the pandemic in 2020, and increased average revenue per unit, the result of pricing gains and higher fuel surcharge revenue. Gains in ethanol, pulpboard, beverages, lumber and wood, and woodchips more than offset declines in soybeans and pulp.

Chemicals revenues increased in both 2022 and 2021 compared with the prior years. In 2022, the increase was the result of higher average revenue per unit, driven by fuel surcharge revenue and pricing gains, and volume growth.

Increases in sand and solid waste shipments were partially offset by declines in plastics, inorganic chemicals, organic chemicals, and natural gas liquids. The increase in sand was due to greater demand resulting from sustained high natural gas prices. Solid waste shipments increased due to growth with existing customers. Plastics shipments decreased due to softening of the housing market. Declines in inorganic chemicals, organic chemicals, and natural gas liquids shipments were due to decreased demand and reduced production. In 2021, the increase was the result of volume growth partially offset by lower average revenue per unit, driven by mix of traffic. The increase in volume was due to economic and production recovery since the beginning of the pandemic, despite ongoing challenges in the energy markets. The markets with the largest gains were solid waste, industrial chemicals, sand, natural gas liquids, and plastics.

Metals and construction revenues were higher in both 2022 and 2021 compared with the prior years. In 2022, revenue growth was driven by higher average revenue per unit, the result of higher fuel surcharge revenue and pricing gains, partially offset by lower volume. Volumes fell largely as a result of decreased shipments of coil steel, iron and steel, and scrap metal driven by service disruptions and slower equipment cycle times. In 2021, revenue growth was driven by increased volumes and higher average revenue per unit, the result of pricing gains and higher fuel surcharge revenue. Volume increased across almost all markets due to economic improvement since the beginning of the pandemic. The commodities serving the metal production industry, including coil steel, scrap metal, and iron and steel, experienced the largest gains.

Automotive revenues rose in both 2022 and 2021 compared with the prior years. The increase in revenues in 2022 was driven by higher average revenue per unit, due to higher fuel surcharge revenue and pricing gains, partially offset by volume declines. Volume declines were the result of slower equipment cycle times partially offset by fewer parts supply issues due to easing supply chain congestion when compared to the prior year. In 2021, the increase in revenues was driven by volume growth and higher average revenue per unit, a result of an increase in fuel surcharge revenue and pricing gains. Automotive volumes were higher due primarily to increased retail demand and the impact of prior-year pandemic-induced production shutdowns. This was partially offset by the impact of the microchip shortage on production.

INTERMODAL revenues increased in both 2022 and 2021 compared with the prior years. The increase in 2022 was the result of higher average revenue per unit, driven by higher fuel surcharge revenue, pricing gains, and increased storage service charges, partially offset by decreased volume. The rise in 2021 was primarily the result of higher average revenue per unit driven by increased storage service charges, higher fuel surcharge revenue and pricing gains.

Intermodal units by market were as follows:

	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2022</u> <u>vs. 2021</u>	<u>2021</u> <u>vs. 2020</u>
	<i>(units in thousands)</i>			<i>(% change)</i>	
Domestic	2,573.6	2,630.6	2,568.7	(2%)	2%
International	1,339.5	1,473.5	1,423.4	(9%)	4%
Total	<u>3,913.1</u>	<u>4,104.1</u>	<u>3,992.1</u>	(5%)	3%

Domestic volume decreased in 2022 but increased in 2021 compared with the prior years. In 2022, volume declined due to service disruptions, terminal congestion, strong over-the-road competition, and increased truck availability. In 2021, volume rose due to strong consumer demand which was partially offset by overall supply chain congestion, including equipment availability issues.

International volume fell in 2022 but rose in 2021. The decline in 2022 was the result of supply chain constraints, chassis shortages, and excess retail inventory. The increase in 2021 was the result of strong import demand despite being limited by various supply chain constraints, including chassis availability issues.

COAL revenues increased in both 2022 and 2021 compared with the prior years. The increase in 2022 was due to higher average revenue per unit, driven by pricing gains and higher fuel surcharge revenue, and increased volumes. The increase in 2021 was due to increased volumes and higher average revenue per unit driven by pricing gains and positive mix.

As shown in the following table, total tonnage increased in both 2022 and 2021.

	2022	2021	2020	2022 vs. 2021	2021 vs. 2020
	<i>(tons in thousands)</i>			<i>(% change)</i>	
Utility	35,705	33,169	32,479	8%	2%
Export	25,887	24,886	18,900	4%	32%
Domestic metallurgical	11,307	11,804	9,441	(4%)	25%
Industrial	3,765	3,595	3,566	5%	1%
Total	76,664	73,454	64,386	4%	14%

Utility coal tonnage increased in both 2022 and 2021 compared with the prior years. The increase in 2022 was due to increased demand and service improvements. The increase in 2021 was due to higher natural gas prices and increased demand from coal-sourced electrical generation.

Export coal tonnage increased in both periods compared with prior years. The increase in 2022 was a result of strong global demand and increased coal supply. The increase in 2021 was a result of strong seaborne pricing, improved global economic conditions, and greater global demand.

Domestic metallurgical coal tonnage decreased in 2022 but increased in 2021 compared with the prior years. The decrease in 2022 was the result of reduced coke shipments related to customer sourcing changes and idled customer facilities. The increase in 2021 was the result of strong recovery in the steel market.

Industrial coal tonnage increased in both 2022 and 2021 compared with the prior year as a result of increased demand.

Railway Operating Expenses

Railway operating expenses summarized by major classifications were as follows:

	2022	2021	2020	2022 vs. 2021	2021 vs. 2020
	<i>(\$ in millions)</i>			<i>(% change)</i>	
Compensation and benefits	\$ 2,621	\$ 2,442	\$ 2,373	7%	3%
Purchased services and rents	1,922	1,726	1,687	11%	2%
Fuel	1,459	799	535	83%	49%
Depreciation	1,221	1,181	1,154	3%	2%
Materials and other	713	547	653	30%	(16%)
Loss on asset disposal	—	—	385		
Total	\$ 7,936	\$ 6,695	\$ 6,787	19%	(1%)

In 2022, expenses increased primarily as a result of higher fuel prices, other inflationary pressures, service-related costs, increased labor-related costs resulting from labor union negotiations, and higher claims expenses. In 2021, expenses declined primarily as a result of the absence of the 2020 loss on asset disposal and the equity method investment impairment charge, which is included in purchased services and rents. This was partially offset by higher fuel costs, increased other purchased services, and higher compensation and benefits expense.

Compensation and benefits increased in 2022, reflecting changes in:

- increased pay rates (up \$188 million),
- employee activity levels (up \$51 million),
- overtime (up \$18 million),
- incentive and stock-based compensation (down \$79 million), and
- other (up \$1 million).

The increase in pay rates in 2022 includes payments in excess of amounts previously estimated in 2021 and 2020 for retroactive wage increases and other benefits under our labor agreements. In 2022, compensation and benefits includes \$54 million and purchased services includes \$2 million of additional expenses pertaining to compensation earned in those periods.

In 2021, compensation and benefits increased, a result of changes in:

- incentive and stock-based compensation (up \$128 million),
- overtime and reworks (up \$47 million),
- increased pay rates (up \$41 million),
- health and welfare benefits for craft employees (down \$19 million),
- employee activity levels (down \$154 million), and
- other (up \$26 million).

Our employment averaged 18,900 in 2022, compared with 18,500 in 2021, and 20,200 in 2020.

Purchased services and rents includes the costs of services purchased from external vendors and contractors, including the net costs of operating joint (or leased) facilities with other railroads and the net cost of equipment rentals.

	2022	2021	2020	2022 vs. 2021	2021 vs. 2020
	<i>(\$ in millions)</i>			<i>(% change)</i>	
Purchased services	\$ 1,565	\$ 1,409	\$ 1,387	11%	2%
Equipment rents	357	317	300	13%	6%
Total	<u>\$ 1,922</u>	<u>\$ 1,726</u>	<u>\$ 1,687</u>	11%	2%

The increase in purchased services in 2022 was due to inflationary pressures which resulted in higher intermodal-related expenses, and increased operational and transportation expenses, as well as higher technology-related costs. The increase in purchased services in 2021 was due to increased technology costs, higher intermodal-related expenses, and increased Conrail, Inc. (Conrail) costs. This was partially offset by the absence of a prior year \$99 million impairment related to an equity method investment.

Equipment rents, which includes our cost of using equipment (mostly freight cars) owned by other railroads or private owners less the rent paid to us for the use of our equipment, increased in both periods. In 2022, the increase was the result of lower network fluidity which led to greater time-and-mileage expenses, increased automotive and

intermodal equipment expenses, and higher short-term locomotive resource costs. In 2021, equipment rents were higher for general-use equipment due to decreased network velocity and increased volume. These increases were partially offset by lower intermodal costs and higher equity in TTX earnings.

Fuel expense, which includes the cost of locomotive fuel as well as other fuel used in railway operations, increased in both periods. The change in both years was due to higher locomotive fuel prices (up 87% in 2022 and 43% in 2021) which increased expenses by \$634 million in 2022 and \$224 million in 2021. Locomotive fuel consumption decreased 2% in 2022, but increased 4% in 2021. We consumed 376 million gallons of diesel fuel in 2022, compared with 384 million gallons in 2021 and 368 million gallons in 2020.

Depreciation expense increased in both periods, a reflection of reinvestment in our infrastructure, rolling stock, and technology.

Materials and other expenses increased in 2022 but decreased in 2021 as shown in the following table.

	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2022</u> vs. 2021	<u>2021</u> vs. 2020
	<i>(\$ in millions)</i>			<i>(% change)</i>	
Materials	\$ 283	\$ 250	\$ 274	13%	(9%)
Claims	270	165	179	64%	(8%)
Other	160	132	200	21%	(34%)
Total	<u>\$ 713</u>	<u>\$ 547</u>	<u>\$ 653</u>	30%	(16%)

Materials expense increased in 2022 but decreased in 2021. The increase in 2022 is due to increased locomotive, freight car, and track materials costs. In 2021, the decrease was due primarily to lower maintenance requirements as a result of fewer locomotives and freight cars in service.

Claims expense includes costs related to personal injury, property damage, and environmental matters. The increase in 2022 was primarily the result of higher costs associated with unfavorable personal injury case development, increased environmental remediation expenses, and higher lading and property damage costs. The decrease in 2021 was primarily the result of lower costs associated with derailments and personal injuries.

Other expense increased in 2022, primarily due to higher travel-related expenses, increased non-income based taxes, and lower gains from sales of operating property, partially offset by lower relocation expenses. In 2021, other expense decreased primarily due to higher gains from sales of operating property. Gains from operating property sales amounted to \$76 million, \$82 million, and \$26 million in 2022, 2021, and 2020, respectively.

Loss on asset disposal

During 2020, we recorded a \$385 million charge related to the disposal of 703 locomotives. For more information on the impact of the charge, see Note 7.

Other income – net

Other income – net decreased in both 2022 and 2021. Other income fell in 2022 due to lower net returns on corporate-owned life insurance (COLI) partially offset by a higher net pension benefit and increased interest income. The decrease in 2021 was driven by lower net returns on COLI and lower gains on sales of non-operating property.

Income taxes

The effective income tax rate was 20.8% in 2022, compared with 22.5% in 2021 and 20.4% in 2020. The current year benefited by \$136 million due to an enacted reduction to the Pennsylvania corporate income tax rate while 2021 benefited by \$34 million due to various state law changes (see Note 4). All years experienced favorable benefits associated with stock-based compensation, while 2021 and 2020 benefited from COLI returns.

For 2023, we expect an effective income tax rate between 23% and 24%.

FINANCIAL CONDITION, LIQUIDITY, AND CAPITAL RESOURCES

Cash provided by operating activities, our principal source of liquidity, was \$4.2 billion in 2022, \$4.3 billion in 2021, and \$3.6 billion in 2020. The decrease in 2022 reflected changes in working capital, offset in part by improved operating results. The increase in 2021 was primarily the result of improved operating results. We had negative working capital of \$642 million at December 31, 2022 and \$354 million at December 31, 2021. Cash and cash equivalents totaled \$456 million and \$839 million at December 31, 2022, and 2021, respectively. We expect that cash on hand combined with cash provided by operating activities will be sufficient to meet our ongoing obligations. In addition, we believe our currently-available borrowing capacity, access to additional financing, and ability to reduce property additions and shareholder distributions, including share repurchases, provides us additional flexibility to meet our ongoing obligations.

Contractual obligations at December 31, 2022, including those that may have material cash requirements, include interest on fixed-rate long-term debt, long-term debt (Note 9), unconditional purchase obligations (Note 17), long-term advances from Conrail (Note 6), operating leases (Note 10), agreements with Consolidated Rail Corporation (CRC) (Note 6), and unrecognized tax benefits (Note 4).

	<u>Total</u>	<u>2023</u>	<u>2024 - 2025</u>	<u>2026 - 2027</u>	<u>2028 and Subsequent</u>
			<i>(\$ in millions)</i>		
Interest on fixed-rate long-term debt	\$ 17,085	\$ 643	\$ 1,239	\$ 1,144	\$ 14,059
Long-term debt principal	16,012	603	957	1,223	13,229
Unconditional purchase obligations	1,650	757	736	80	77
Long-term advances from Conrail	534	—	—	—	534
Operating leases	462	103	182	96	81
Agreements with CRC	272	42	84	84	62
Unrecognized tax benefits*	22	—	—	—	22
Total	<u>\$ 36,037</u>	<u>\$ 2,148</u>	<u>\$ 3,198</u>	<u>\$ 2,627</u>	<u>\$ 28,064</u>

* This amount is shown in the 2028 and Subsequent column because the year of settlement cannot be reasonably estimated.

Off balance sheet arrangements consist primarily of unrecognized obligations, including unconditional purchase obligations and future interest payments on fixed-rate long-term debt, which are included in the table above.

Cash used in investing activities was \$1.6 billion in 2022, and \$1.2 billion in both 2021 and 2020. The increase in 2022 is due to higher property additions partially offset by increased proceeds from property sales. In 2021, lower proceeds from property sales were mostly offset by reduced COLI policy loan repayments and lower property additions.

Capital spending and track and equipment statistics can be found within the “Railway Property” section of Part I of this report on Form 10-K. For 2023, we expect property additions will be approximately \$2.1 billion.

In November 2022, we entered into an asset purchase and sale agreement with the Board of Trustees of the Cincinnati Southern Railway to purchase approximately 337 miles of railway line that extends from Cincinnati, Ohio to Chattanooga, Tennessee which we currently operate under a lease agreement. The total purchase price for the line and other associated real and personal property included in the transaction is approximately \$1.6 billion. The agreement is conditioned upon (i) certain changes to Ohio state law applicable to the use of the related sale proceeds, (ii) approval by the voters of the City of Cincinnati, and (iii) the receipt of regulatory approval from the STB. The agreement includes various termination provisions including termination at any time prior to closing by the mutual written consent of the parties, termination at any time after December 31, 2024 by the mutual written consent of the parties, termination by us if the STB takes action that we deem unsatisfactory, and termination by either party if Cincinnati voter approval is not obtained on or before the later of June 30, 2025 and the calendar date on which the polls are open for the 2025 Cincinnati primary election.

Cash used in financing activities was \$3.0 billion in 2022, compared with \$3.3 billion in 2021, and \$1.9 billion in 2020. The decrease in 2022 reflects lower repurchases of Common Stock, and increased proceeds from borrowings, partially offset by higher dividends. In 2021, the increase reflects higher repurchases of Common Stock and debt repayments, partially offset by increased proceeds from borrowings.

Share repurchases of \$3.1 billion in 2022, \$3.4 billion in 2021, and \$1.4 billion in 2020 resulted in the retirement of 12.6 million, 12.7 million, and 7.4 million shares, respectively. On March 29, 2022, our Board of Directors authorized a new program for the repurchase of up to an additional \$10.0 billion of Common Stock beginning April 1, 2022. Our previous share repurchase program terminated on March 31, 2022. As of December 31, 2022, \$7.5 billion remains authorized by our Board of Directors for repurchase. The timing and volume of future share repurchases will be guided by our assessment of market conditions and other pertinent factors. Repurchases may be executed in the open market, through derivatives, accelerated repurchase and other negotiated transactions and through plans designed to comply with Rule 10b5-1(c) and Rule 10b-18 under the Securities and Exchange Act of 1934. Any near-term purchases under the program are expected to be made with internally-generated cash, cash on hand, or proceeds from borrowings.

In June 2022, we issued \$750 million of 4.55% senior notes due 2053.

In February 2022, we issued \$600 million of 3.00% senior notes due 2032 and \$400 million of 3.70% senior notes due 2053.

In May 2022, we renewed our accounts receivable securitization program with a maximum borrowing capacity of \$400 million. The term expires in May 2023. We had \$100 million in borrowings outstanding under this program and our available borrowing capacity was \$300 million at December 31, 2022 and \$400 million at December 31, 2021.

We also have in place and available an \$800 million credit agreement expiring in March 2025, which provides for borrowings at prevailing rates and includes covenants. We had no amounts outstanding under this facility at either December 31, 2022 or December 31, 2021, and we are in compliance with all of its covenants.

In addition, we have investments in general purpose COLI policies and had the ability to borrow against these policies up to \$610 million and \$715 million at December 31, 2022 and December 31, 2021, respectively.

Our debt-to-total capitalization ratio was 54.4% at December 31, 2022, compared with 50.4% at December 31, 2021. We discuss our credit agreement and our accounts receivable securitization program in Note 9. Subsequent to December 31, 2022, we issued \$500 million in fixed rate debt securities. These senior notes, issued February 2, 2023, carry an interest rate of 4.45% and mature in 2033. After this issuance, we have authority from our Board of

Directors to issue an additional \$800 million of debt or equity securities through public or private sale, all of which provide for access to additional liquidity should the need arise.

Upcoming annual debt maturities are disclosed in Note 9. Overall, our goal is to maintain a capital structure with appropriate leverage to support our business strategy and provide flexibility through business cycles.

CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in accordance with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. These estimates and assumptions may require judgment about matters that are inherently uncertain, and future events are likely to occur that may require us to make changes to these estimates and assumptions. Accordingly, we regularly review these estimates and assumptions based on historical experience, changes in the business environment, and other factors we believe to be reasonable under the circumstances. The following critical accounting estimates are a subset of our significant accounting policies described in Note 1.

Pensions and Other Postretirement Benefits

Accounting for pensions and other postretirement benefit plans requires us to make several estimates and assumptions (Note 12). These include the expected rate of return from investment of the plans' assets and the expected retirement age of employees as well as their projected earnings and mortality. In addition, the amounts recorded are affected by changes in the interest rate environment because the associated liabilities are discounted to their present value. We make these estimates based on our historical experience and other information we deem pertinent under the circumstances (for example, expectations of future stock market performance). We utilize an independent actuarial consulting firm's studies to assist us in selecting appropriate actuarial assumptions and valuing related liabilities.

For 2022, we assumed a long-term investment rate of return of 8.0%, which was supported by our long-term total rate of return on pension plan assets since inception, as well as our expectation of future returns. A one-percentage point change to this rate of return assumption would result in a \$26 million change in annual pension expense. We review assumptions related to our defined benefit plans annually, and while changes are likely to occur in assumptions concerning retirement age, projected earnings, and mortality, they are not expected to have a material effect on our net pension expense or net pension liability in the future. The net pension liability is recorded at net present value using discount rates that are based on the current interest rate environment in light of the timing of expected benefit payments. We utilize analyses in which the projected annual cash flows from the pension and postretirement benefit plans are matched with yield curves based on an appropriate universe of high-quality corporate bonds. We use the results of the yield curve analyses to select the discount rates that match the payment streams of the benefits in these plans. A one-percentage point change to this discount rate assumption would result in a \$3 million change in annual pension expense.

Properties and Depreciation

Most of our assets are long-lived railway properties (Note 7). "Properties" are stated principally at cost and are depreciated using the group method whereby assets with similar characteristics, use, and expected lives are grouped together in asset classes and depreciated using a composite depreciation rate. See Note 1 for a more detailed discussion of assumptions and estimates.

Expenditures, including those on leased assets, that extend an asset's useful life or increase its utility are capitalized. Expenditures capitalized include those that are directly related to a capital project and may include materials, labor, and other direct costs, in addition to an allocable portion of indirect costs that relate to a capital project. A significant portion of our annual capital spending relates to self-constructed assets. Costs related to repairs and

maintenance activities that, in our judgment, do not extend an asset's useful life or increase its utility are expensed when such repairs are performed.

Depreciation expense for 2022 totaled \$1.2 billion. Our composite depreciation rates for 2022 are disclosed in Note 7; a one-year increase (or decrease) in the estimated average useful lives of depreciable assets would have resulted in an approximate \$44 million decrease (or increase) to annual depreciation expense.

Personal Injury

Claims expense, included in "Materials and other" in the Consolidated Statements of Income, includes our estimate of costs for personal injuries.

To aid in valuing our personal injury liability and determining the amount to accrue with respect to such claims during the year, we utilize studies prepared by an independent actuarial consulting firm. The actuarial firm studies our historical patterns of reserving for claims and subsequent settlements, taking into account relevant outside influences. We adjust the liability quarterly based upon our assessment and the results of the study. The accuracy of our estimate of the liability is subject to inherent limitation given the difficulty of predicting future events and, as such, the ultimate loss sustained may vary from the estimated liability recorded.

See Note 17 for a more detailed discussion of the assumptions and estimates we use for personal injury.

Income Taxes

Our net deferred tax liability totaled \$7.3 billion at December 31, 2022 (Note 4). This liability is estimated based on the expected future tax consequences of items recognized in the financial statements. After application of the federal statutory tax rate to book income, judgment is required with respect to the timing and deductibility of expenses in our income tax returns. For state income and other taxes, judgment is also required with respect to the apportionment among the various jurisdictions. A valuation allowance is recorded if we expect that it is more likely than not that deferred tax assets will not be realized. We have a \$41 million valuation allowance on \$373 million of deferred tax assets as of December 31, 2022, reflecting the expectation that substantially all of these assets will be realized.

OTHER MATTERS

Labor Agreements

Approximately 80% of our railroad employees are covered by collective bargaining agreements with various labor unions. Pursuant to the Railway Labor Act (RLA), these agreements remain in effect until new agreements are reached, or until the bargaining procedures mandated by the RLA are completed. Moratorium provisions in the labor agreements govern when the railroads and unions may propose changes to the agreements. We largely bargain nationally in concert with other major railroads, represented by the National Carriers' Conference Committee.

After management and the unions served their formal proposals in November 2019 for changes to the collective bargaining agreements, negotiations began in 2020 following the expiration of the last moratorium. On June 17, 2022, the National Mediation Board notified the parties that all practical methods of ending the dispute had been exhausted without effecting a settlement and that its mediation services had been terminated. Shortly thereafter, President Biden created Presidential Emergency Board (PEB) No. 250, effective July 18, 2022, to investigate the facts of the dispute and make recommendations. The PEB issued its recommendations on August 16, 2022, and the parties engaged in further negotiations. By December 2022, agreements based on the PEB's recommendations had either been ratified or enacted through legislative action for all twelve unions.

While the parties are engaged in additional discussions to conclude the implementation of the recently finalized agreements, neither party can compel mandatory bargaining around any new proposals until November 1, 2024. That said, we understand the imperative to continue improving quality of life for our craft employees and are actively engaged in voluntary discussions (which carry no risk of a work stoppage) with all of our unions on this important issue.

Market Risks

We manage overall exposure to fluctuations in interest rates by issuing both fixed- and floating- rate debt instruments. At December 31, 2022, debt subject to interest rate fluctuations totaled \$100 million. A one-percentage point increase in interest rates would increase total annual interest expense related to all variable debt by approximately \$1 million. Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a one-percentage point decrease in interest rates as of December 31, 2022 and amounts to an increase of approximately \$1.3 billion to the fair value of our debt at December 31, 2022. We consider it unlikely that interest rate fluctuations applicable to these instruments will result in a material adverse effect on our financial position, results of operations, or liquidity.

New Accounting Pronouncements

For a detailed discussion of new accounting pronouncements, see Note 1.

Inflation

In preparing financial statements, GAAP requires the use of historical cost that disregards the effects of inflation on the replacement cost of property. As a capital-intensive company, we have most of our capital invested in long-lived assets. The replacement cost of these assets, as well as the related depreciation expense, would be substantially greater than the amounts reported on the basis of historical cost.

FORWARD-LOOKING STATEMENTS

Certain statements in Management’s Discussion and Analysis of Financial Condition and Results of Operations are “forward-looking statements” within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, as amended. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, levels of activity, performance, or our achievements or those of our industry to be materially different from those expressed or implied by any forward-looking statements. In some cases, forward-looking statements can be identified by terminology such as “may,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “believe,” “estimate,” “project,” “consider,” “predict,” “potential,” “feel,” or other comparable terminology. We have based these forward-looking statements on our current expectations, assumptions, estimates, beliefs, and projections. While we believe these expectations, assumptions, estimates, beliefs, and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which involve factors or circumstances that are beyond our control. These and other important factors, including those discussed in Item 1A “Risk Factors,” may cause actual results, performance, or achievements to differ materially from those expressed or implied by these forward-looking statements. The forward-looking statements herein are made only as of the date they were first issued, and unless otherwise required by applicable securities laws, we disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

Additional Information

Investors and others should note that we routinely use the Investor Relations, Performance Metrics and Sustainability sections of our website (www.norfolksouthern.com/content/nscorp/en/investor-relations.html, <http://www.nscorp.com/content/nscorp/en/investor-relations/performance-metrics.html>, & www.nscorp.com/content/nscorp/en/about-ns/sustainability.html) to post presentations to investors and other important information, including information that may be deemed material to investors. Information about us, including information that may be deemed material, may also be announced by posts on our social media channels, including Twitter (www.twitter.com/nscorp) and LinkedIn (www.linkedin.com/company/norfolk-southern). We may also use our website and social media channels for the purpose of complying with our disclosure obligations under Regulation FD. As a result, we encourage investors, the media, and others interested in Norfolk Southern to review the information posted on our website and social media channels. The information posted on our website and social media channels is not incorporated by reference in this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The information required by this item is included in Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” under the heading “Market Risks.”

Item 8. Financial Statements and Supplementary Data

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Report of Management

February 3, 2023

To the Stockholders
Norfolk Southern Corporation:

Management is responsible for establishing and maintaining adequate internal control over financial reporting. In order to ensure that Norfolk Southern's internal control over financial reporting is effective, management regularly assesses such controls and did so most recently as of December 31, 2022. This assessment was based on criteria for effective internal control over financial reporting described in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has concluded that we maintained effective internal control over financial reporting as of December 31, 2022.

KPMG LLP, independent registered public accounting firm, has audited our financial statements and issued an attestation report on our internal control over financial reporting as of December 31, 2022.

/s/ Alan H. Shaw

Alan H. Shaw
President and
Chief Executive Officer

/s/ Mark R. George

Mark R. George
Executive Vice President
and Chief Financial Officer

/s/ Claiborne L. Moore

Claiborne L. Moore
Vice President and
Controller

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Norfolk Southern Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Norfolk Southern Corporation and subsidiaries' (the Company) 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. 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 the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows, and changes in stockholders' equity for each of the years in the three-year period ended December 31, 2022, and the related notes and financial statement schedule of valuation and qualifying accounts as listed in Item 15(A)2 (collectively, the consolidated financial statements), and our report dated February 3, 2023 expressed an unqualified opinion on those consolidated 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 Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ KPMG LLP
KPMG LLP

Atlanta, Georgia
February 3, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Norfolk Southern Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Norfolk Southern Corporation and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, cash flows, and changes in stockholders' equity for each of the years in the three-year period ended December 31, 2022, and the related notes and financial statement schedule of valuation and qualifying accounts as listed in Item 15(A)2 (collectively, the consolidated financial statements). In our opinion, the consolidated 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 years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 3, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Sufficiency of audit evidence related to the capitalization of property expenditures

As discussed in Note 1 to the consolidated financial statements, expenditures that extend an asset's useful life or increase its utility are capitalized. The Company has recorded \$32,156 million in net book value of properties at December 31, 2022 and has recorded \$1,948 million in property additions for the year ended December 31, 2022. Expenditures capitalized include those that are directly related to a capital project and may include materials, labor and other direct costs, in addition to an allocable portion of indirect costs that relate to a capital project. A significant portion of the Company's annual capital spending relates to self-constructed assets. Costs related to repair and maintenance activities, that in the Company's judgment, do not extend an asset's useful life or increase its utility are expensed when such repairs are performed.

We identified the evaluation of the sufficiency of audit evidence related to capitalization of property expenditures as a critical audit matter. Subjective auditor judgment was required in determining procedures and evaluating audit results related to the capitalization of purchased services and compensation due to their usage for both self-constructed assets and repairs and maintenance.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over capitalized property expenditures. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's process to capitalize property expenditures, including controls over the determination of whether purchased services and compensation expenditures extend an asset's useful life or increase its utility. For a sample of property addition expenditures, we inquired and inspected support to evaluate that the expenditure extended an asset's useful life or increased its utility. We evaluated the sufficiency of audit evidence obtained by assessing the results of the procedures performed, including the appropriateness of the nature of such evidence.

/s/ KPMG LLP
KPMG LLP

We have served as the Company's auditor since 1982.

Atlanta, Georgia
February 3, 2023

Norfolk Southern Corporation and Subsidiaries
Consolidated Statements of Income

	Years ended December 31,		
	2022	2021	2020
	<i>(\$ in millions, except per share amounts)</i>		
Railway operating revenues	\$ 12,745	\$ 11,142	\$ 9,789
Railway operating expenses			
Compensation and benefits	2,621	2,442	2,373
Purchased services and rents	1,922	1,726	1,687
Fuel	1,459	799	535
Depreciation	1,221	1,181	1,154
Materials and other	713	547	653
Loss on asset disposal	—	—	385
	<hr/>	<hr/>	<hr/>
Total railway operating expenses	7,936	6,695	6,787
	<hr/>	<hr/>	<hr/>
Income from railway operations	4,809	4,447	3,002
Other income – net	13	77	153
Interest expense on debt	692	646	625
	<hr/>	<hr/>	<hr/>
Income before income taxes	4,130	3,878	2,530
Income taxes	860	873	517
	<hr/>	<hr/>	<hr/>
Net income	<u>\$ 3,270</u>	<u>\$ 3,005</u>	<u>\$ 2,013</u>
Earnings per share			
Basic	\$ 13.92	\$ 12.16	\$ 7.88
Diluted	13.88	12.11	7.84

See accompanying notes to consolidated financial statements.

Norfolk Southern Corporation and Subsidiaries
Consolidated Statements of Comprehensive Income

	Years ended December 31,		
	2022	2021	2020
	<i>(\$ in millions)</i>		
Net income	\$ 3,270	\$ 3,005	\$ 2,013
Other comprehensive income (loss), before tax:			
Pension and other postretirement benefits	51	226	(140)
Other comprehensive income of equity investees	17	24	2
Other comprehensive income (loss), before tax	68	250	(138)
Income tax benefit (expense) related to items of other comprehensive income (loss)	(17)	(58)	35
Other comprehensive income (loss), net of tax	51	192	(103)
Total comprehensive income	\$ 3,321	\$ 3,197	\$ 1,910

See accompanying notes to consolidated financial statements.

Norfolk Southern Corporation and Subsidiaries
Consolidated Balance Sheets

At December 31,

2022 2021

(\$ in millions)

Assets

Current assets:

Cash and cash equivalents	\$ 456	\$ 839
Accounts receivable – net	1,148	976
Materials and supplies	253	218
Other current assets	150	134
Total current assets	2,007	2,167

Investments

3,694 3,707

Properties less accumulated depreciation of \$12,592 and
\$12,031, respectively

32,156 31,653

Other assets

1,028 966

Total assets

\$ 38,885 \$ 38,493

Liabilities and stockholders' equity

Current liabilities:

Accounts payable	\$ 1,293	\$ 1,351
Short-term debt	100	—
Income and other taxes	312	305
Other current liabilities	341	312
Current maturities of long-term debt	603	553
Total current liabilities	2,649	2,521

Long-term debt

14,479 13,287

Other liabilities

1,759 1,879

Deferred income taxes

7,265 7,165

Total liabilities

26,152 24,852

Stockholders' equity:

Common Stock \$1.00 per share par value, 1,350,000,000 shares authorized; outstanding 228,076,415 and 240,162,790 shares, respectively, net of treasury shares	230	242
Additional paid-in capital	2,157	2,215
Accumulated other comprehensive loss	(351)	(402)
Retained income	10,697	11,586

Total stockholders' equity

12,733 13,641

Total liabilities and stockholders' equity

\$ 38,885 \$ 38,493

See accompanying notes to consolidated financial statements.

Norfolk Southern Corporation and Subsidiaries
Consolidated Statements of Cash Flows

	Years ended December 31,		
	2022	2021	2020
	<i>(\$ in millions)</i>		
Cash flows from operating activities			
Net income	\$ 3,270	\$ 3,005	\$ 2,013
Reconciliation of net income to net cash provided by operating activities:			
Depreciation	1,221	1,181	1,154
Deferred income taxes	83	184	142
Gains and losses on properties	(82)	(86)	(39)
Loss on asset disposal	—	—	385
Impairment of investment	—	—	99
Changes in assets and liabilities affecting operations:			
Accounts receivable	(171)	(133)	71
Materials and supplies	(35)	3	23
Other current assets	(18)	(6)	3
Current liabilities other than debt	23	283	34
Other – net	(69)	(176)	(248)
Net cash provided by operating activities	<u>4,222</u>	<u>4,255</u>	<u>3,637</u>
Cash flows from investing activities			
Property additions	(1,948)	(1,470)	(1,494)
Property sales and other transactions	263	159	333
Investment purchases	(12)	(10)	(13)
Investment sales and other transactions	94	99	(1)
Net cash used in investing activities	<u>(1,603)</u>	<u>(1,222)</u>	<u>(1,175)</u>
Cash flows from financing activities			
Dividends	(1,167)	(1,028)	(960)
Common Stock transactions	(4)	17	69
Purchase and retirement of Common Stock	(3,110)	(3,390)	(1,439)
Proceeds from borrowings	1,832	1,676	784
Debt repayments	(553)	(584)	(381)
Net cash used in financing activities	<u>(3,002)</u>	<u>(3,309)</u>	<u>(1,927)</u>
Net increase (decrease) in cash and cash equivalents	(383)	(276)	535
Cash and cash equivalents			
At beginning of year	839	1,115	580
At end of year	<u>\$ 456</u>	<u>\$ 839</u>	<u>\$ 1,115</u>
Supplemental disclosures of cash flow information			
Cash paid during the year for:			
Interest (net of amounts capitalized)	\$ 619	\$ 579	\$ 577
Income taxes (net of refunds)	750	654	311

See accompanying notes to consolidated financial statements.

Norfolk Southern Corporation and Subsidiaries
Consolidated Statements of Changes in Stockholders' Equity

	<u>Common Stock</u>	<u>Additional Paid-in Capital</u>	<u>Accum. Other Comprehensive Loss</u>	<u>Retained Income</u>	<u>Total</u>
	<i>(\$ in millions, except per share amounts)</i>				
Balance at December 31, 2019	\$ 259	\$ 2,209	\$ (491)	\$ 13,207	\$ 15,184
Comprehensive income:					
Net income				2,013	2,013
Other comprehensive loss			(103)		(103)
Total comprehensive income					1,910
Dividends on Common Stock, \$3.76 per share				(960)	(960)
Share repurchases	(7)	(59)		(1,373)	(1,439)
Stock-based compensation	2	98		(4)	96
Balance at December 31, 2020	254	2,248	(594)	12,883	14,791
Comprehensive income:					
Net income				3,005	3,005
Other comprehensive income			192		192
Total comprehensive income					3,197
Dividends on Common Stock, \$4.16 per share				(1,028)	(1,028)
Share repurchases	(13)	(106)		(3,271)	(3,390)
Stock-based compensation	1	73		(3)	71
Balance at December 31, 2021	242	2,215	(402)	11,586	13,641
Comprehensive income:					
Net income				3,270	3,270
Other comprehensive income			51		51
Total comprehensive income					3,321
Dividends on Common Stock, \$4.96 per share				(1,167)	(1,167)
Share repurchases	(13)	(108)		(2,989)	(3,110)
Stock-based compensation	1	50		(3)	48
Balance at December 31, 2022	<u>\$ 230</u>	<u>\$ 2,157</u>	<u>\$ (351)</u>	<u>\$ 10,697</u>	<u>\$ 12,733</u>

See accompanying notes to consolidated financial statements.

Norfolk Southern Corporation and Subsidiaries

Notes to Consolidated Financial Statements

The following Notes are an integral part of the Consolidated Financial Statements.

1. Summary of Significant Accounting Policies

Description of Business

Norfolk Southern Corporation is a Georgia-based holding company engaged principally in the rail transportation business, operating 19,100 route miles primarily in the Southeast, East, and Midwest. These consolidated financial statements include Norfolk Southern and its majority-owned and controlled subsidiaries (collectively, NS, we, us, and our). Norfolk Southern's major subsidiary is NSR. All significant intercompany balances and transactions have been eliminated in consolidation.

NSR and its railroad subsidiaries transport raw materials, intermediate products, and finished goods classified in the following commodity groups (percent of total railway operating revenues in 2022): intermodal (29%); agriculture, forest and consumer products (19%); chemicals (17%); coal (14%); metals and construction (13%); and automotive (8%). Although most of our customers are domestic, ultimate points of origination or destination for some of the products transported (particularly coal bound for export and some intermodal shipments) may be outside the U.S. Approximately 80% of our railroad employees are covered by collective bargaining agreements with various labor unions.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. We periodically review our estimates, including those related to the recoverability and useful lives of assets, as well as liabilities for litigation, environmental remediation, casualty claims, income taxes and pension and other postretirement benefits. Changes in facts and circumstances may result in revised estimates.

Revenue Recognition

Transportation revenues are recognized proportionally as a shipment moves from origin to destination, and related expenses are recognized as incurred. Certain of our contract refunds (which are primarily volume-based incentives) are recorded as a reduction to revenues on the basis of our best estimate of projected liability, which is based on historical activity, current shipment counts and expectation of future activity. Certain ancillary services, such as switching, demurrage and other incidental activities, may be provided to customers under their transportation contracts. The revenues associated with these distinct performance obligations are recognized when the services are performed or as contractual obligations are met.

Cash Equivalents

"Cash equivalents" are highly liquid investments purchased three months or less from maturity.

Allowance for Doubtful Accounts

Our allowance for doubtful accounts was \$9 million and \$8 million at December 31, 2022 and 2021, respectively. To determine our allowance for doubtful accounts, we evaluate historical loss experience (which has not been significant), the characteristics of current accounts, and general economic conditions and trends.

Materials and Supplies

“Materials and supplies,” consisting mainly of items for maintenance of property and equipment, are stated at the lower of average cost or net realizable value. The cost of materials and supplies expected to be used in property additions or improvements is included in “Properties.”

Investments

Investments in entities over which we have the ability to exercise significant influence but do not control the entity are accounted for using the equity method, whereby the investment is carried at the cost of the acquisition plus our equity in undistributed earnings or losses since acquisition.

Properties

“Properties” are stated principally at cost and are depreciated using the group method whereby assets with similar characteristics, use, and expected lives are grouped together in asset classes and depreciated using a composite depreciation rate. This methodology treats each asset class as a pool of resources, not as singular items. We use approximately 75 depreciable asset classes.

Depreciation expense is based on our assumptions concerning expected service lives of our properties as well as the expected net salvage that will be received upon their retirement. In developing these assumptions, we utilize periodic depreciation studies that are performed by an independent outside firm of consulting engineers and approved by the STB. Our depreciation studies are conducted about every three years for equipment and every six years for track assets and other roadway property. The frequency of these studies is consistent with guidelines established by the STB. We adjust our rates based on the results of these studies and implement the changes prospectively. The studies may also indicate that the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by the study. Any such deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the affected class of property, as determined by the study.

Key factors that are considered in developing average service life and salvage estimates include:

- statistical analysis of historical retirement data and surviving asset records,
- review of historical salvage received and current market rates,
- review of our operations including expected changes in technology, customer demand, maintenance practices and asset management strategies,
- review of accounting policies and assumptions, and
- industry review and analysis.

The composite depreciation rate for rail in high density corridors is derived based on consideration of annual gross tons as compared to the total or ultimate capacity of rail in these corridors. Our experience has shown that traffic density is a leading factor in the determination of the expected service life of rail in high density corridors. In developing the respective depreciation rate, consideration is also given to several rail characteristics including age, weight, condition (new or second-hand) and type (curved or straight).

We capitalize interest on major projects during the period of their construction. Expenditures, including those on leased assets, that extend an asset’s useful life or increase its utility are capitalized. Expenditures capitalized include those that are directly related to a capital project and may include materials, labor, and other direct costs, in addition to an allocable portion of indirect costs that relate to a capital project. A significant portion of our annual capital spending relates to self-constructed assets. Removal activities occur in conjunction with replacement and are estimated based on the average percentage of time employees replacing assets spend on removal functions. Costs related to repairs and maintenance activities that, in our judgment, do not extend an asset’s useful life or increase its utility are expensed when such repairs are performed.

When depreciable operating road and equipment assets are sold or retired in the ordinary course of business, the cost of the assets, net of sales proceeds or salvage, is charged to accumulated depreciation, and no gain or loss is recognized in earnings. Actual historical cost values are retired when available, such as with most equipment assets. The use of estimates in recording the retirement of certain roadway assets is necessary based on the impracticality of tracking individual asset costs. When retiring rail, ties and ballast, we use statistical curves that indicate the relative distribution of the age of the assets retired. The historical cost of other roadway assets is estimated using a combination of inflation indices specific to the rail industry and those published by the U.S. Bureau of Labor Statistics. The indices are applied to the replacement value based on the age of the retired assets. These indices are used because they closely correlate with the costs of roadway assets. Gains and losses on disposal of operating land are included in “Materials and other” expenses. Gains and losses on disposal of non-operating land and non-rail assets are included in “Other income – net” since such income is not a product of our railroad operations.

A retirement is considered abnormal if it does not occur in the ordinary course of business, if it relates to disposition of a large segment of an asset class and if the retirement varies significantly from the retirement profile identified through our depreciation studies, which inherently consider the impact of normal retirements on expected service lives and depreciation rates. Gains or losses from abnormal retirements are recognized in income from railway operations.

We review the carrying amount of properties whenever events or changes in circumstances indicate that such carrying amount may not be recoverable based on future undiscounted cash flows. Assets that are deemed impaired as a result of such review are recorded at the lower of carrying amount or fair value.

New Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2019-12, “*Simplifying the Accounting for Income Taxes*,” which added new guidance to simplify the accounting for income taxes, changed the accounting for certain income tax transactions, and made other minor changes. We adopted the standard on January 1, 2021 and there was no material impact to the financial statements upon adoption.

In November 2021, the FASB issued ASU 2021-10, “*Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance*,” which requires annual disclosures when an entity has received government assistance. Entities are required to disclose the types of government assistance received, the accounting treatment for that government assistance, and the effect of the government assistance on the financial statements. We adopted the new standard on January 1, 2022 and there was no material impact to the financial statements upon adoption.

2. Railway Operating Revenues

The following table disaggregates our revenues by major commodity group:

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
Merchandise:			
Agriculture, forest and consumer products	\$ 2,493	\$ 2,251	\$ 2,116
Chemicals	2,148	1,951	1,809
Metals and construction	1,652	1,562	1,333
Automotive	1,038	905	830
Merchandise	<u>7,331</u>	<u>6,669</u>	<u>6,088</u>
Intermodal	3,681	3,163	2,654
Coal	<u>1,733</u>	<u>1,310</u>	<u>1,047</u>
 Total	 <u>\$ 12,745</u>	 <u>\$ 11,142</u>	 <u>\$ 9,789</u>

We recognize the amount of revenues to which we expect to be entitled for the transfer of promised goods or services to customers. A performance obligation is created when a customer under a transportation contract or public tariff submits a bill of lading to us for the transport of goods. These performance obligations are satisfied as the shipments move from origin to destination. As such, transportation revenues are recognized proportionally as a shipment moves, and related expenses are recognized as incurred. These performance obligations are generally short-term in nature with transit days averaging approximately one week or less for each commodity group. The customer has an unconditional obligation to pay for the service once the service has been completed. Estimated revenues associated with in-process shipments at period-end are recorded based on the estimated percentage of service completed. We had no material remaining performance obligations at December 31, 2022 and 2021.

We may provide customers ancillary services, such as switching, demurrage and other incidental activities, under their transportation contracts. The revenues associated with these distinct performance obligations are recognized when the services are performed or as contractual obligations are met. These revenues are included within each of the commodity groups and represent approximately 7%, 7% and 5%, respectively, of total “Railway operating revenues” on the Consolidated Statements of Income for the years ended December 31, 2022, 2021, and 2020.

Revenues related to interline transportation services that involve another railroad are reported on a net basis. Therefore, the portion of the amount that relates to another party is not reflected in revenues.

Under the typical terms of our freight contracts, payment for services is due within fifteen days of billing the customer, thus there are no significant financing components. “Accounts receivable – net” on the Consolidated Balance Sheets includes both customer and non-customer receivables as follows:

	December 31,	
	<u>2022</u>	<u>2021</u>
	<i>(\$ in millions)</i>	
Customer	\$ 895	\$ 741
Non-customer	<u>253</u>	<u>235</u>
 Accounts receivable – net	 <u>\$ 1,148</u>	 <u>\$ 976</u>

Non-customer receivables include non-revenue-related amounts due from other railroads, governmental entities, and others. There were no non-current customer receivables at December 31, 2022, while “Other assets” on the

Consolidated Balance Sheets included \$23 million at December 31, 2021. We do not have any material contract assets or liabilities at December 31, 2022 and 2021.

3. Other Income – Net

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
Pension and other postretirement benefits (Note 12)	\$ 126	\$ 102	\$ 91
COLI – net	(77)	17	85
Other	<u>(36)</u>	<u>(42)</u>	<u>(23)</u>
Total	<u>\$ 13</u>	<u>\$ 77</u>	<u>\$ 153</u>

4. Income Taxes

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
Current:			
Federal	\$ 645	\$ 553	\$ 307
State	132	136	68
Total current taxes	<u>777</u>	<u>689</u>	<u>375</u>
Deferred:			
Federal	206	186	111
State	(123)	(2)	31
Total deferred taxes	<u>83</u>	<u>184</u>	<u>142</u>
Income taxes	<u>\$ 860</u>	<u>\$ 873</u>	<u>\$ 517</u>

Reconciliation of Statutory Rate to Effective Rate

“Income taxes” on the Consolidated Statements of Income differs from the amounts computed by applying the statutory federal corporate tax rate as follows:

	<u>2022</u>		<u>2021</u>		<u>2020</u>	
	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>
	<i>(\$ in millions)</i>					
Federal income tax at statutory rate	\$ 867	21.0	\$ 814	21.0	\$ 531	21.0
State income taxes, net of federal tax effect	146	3.5	143	3.6	85	3.3
State law changes	(136)	(3.3)	(34)	(0.8)	—	—
Excess tax benefits on stock-based compensation	(18)	(0.4)	(25)	(0.6)	(39)	(1.5)
Other, net	<u>1</u>	<u>—</u>	<u>(25)</u>	<u>(0.7)</u>	<u>(60)</u>	<u>(2.4)</u>
Income taxes	<u>\$ 860</u>	<u>20.8</u>	<u>\$ 873</u>	<u>22.5</u>	<u>\$ 517</u>	<u>20.4</u>

On July 8, 2022, House Bill 1342 was signed into law in the Commonwealth of Pennsylvania, which reduced its corporate income tax rate from 9.99% to 4.99%, through a series of phased reductions beginning each tax year from

January 1, 2023 through January 1, 2031. GAAP requires companies to recognize the effect of tax law changes in the period of enactment. As a result, in 2022, we recognized a \$136 million benefit in “Income taxes” with a corresponding reduction in “Deferred income taxes.”

Deferred Tax Assets and Liabilities

Certain items are reported in different periods for financial reporting and income tax purposes. Deferred tax assets and liabilities are recorded in recognition of these differences. The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are as follows:

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Deferred tax assets:		
Accruals, including casualty and other claims	\$ 110	\$ 92
Compensation and benefits, including postretirement benefits	99	181
Other	164	188
Total gross deferred tax assets	<u>373</u>	<u>461</u>
Less valuation allowance	<u>(41)</u>	<u>(60)</u>
Net deferred tax assets	<u>332</u>	<u>401</u>
Deferred tax liabilities:		
Property	(7,050)	(7,016)
Other	<u>(547)</u>	<u>(550)</u>
Total deferred tax liabilities	<u>(7,597)</u>	<u>(7,566)</u>
Deferred income taxes	<u>\$ (7,265)</u>	<u>\$ (7,165)</u>

Except for amounts for which a valuation allowance has been provided, we believe that it is more likely than not that the results of future operations will generate sufficient taxable income to realize the deferred tax assets. The valuation allowance at the end of each year primarily relates to subsidiary state income tax net operating losses and state investment tax credits that may not be utilized prior to their expiration. The total valuation allowance decreased by \$19 million in 2022 and increased \$3 million in both 2021 and 2020.

Uncertain Tax Positions

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Balance at beginning of year	\$ 21	\$ 22
Additions based on tax positions related to the current year	3	3
Additions for tax positions of prior years	1	3
Settlements with taxing authorities	(2)	(5)
Lapse of statutes of limitations	(1)	(2)
	<u>22</u>	<u>21</u>
Balance at end of year	<u>\$ 22</u>	<u>\$ 21</u>

Included in the balance of unrecognized tax benefits at December 31, 2022 are potential benefits of \$18 million that would affect the effective tax rate if recognized. Unrecognized tax benefits are adjusted in the period in which new information about a tax position becomes available or the final outcome differs from the amount recorded.

The statute of limitations on Internal Revenue Service examinations has expired for all years prior to 2019. State income tax returns are generally subject to examination for a period of three to four years after the return. In addition, we are generally obligated to report changes in taxable income arising from federal income tax examinations to the states within a period of up to two years from the date the federal examination is final. We have various state income tax returns either under examination, administrative appeal, or litigation.

5. Fair Value Measurements

FASB Accounting Standards Codification (ASC) 820-10, “*Fair Value Measurements*,” established a framework for measuring fair value and a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels, as follows:

Level 1 Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that we have the ability to access.

Level 2 Inputs to the valuation methodology include:

- quoted prices for similar assets or liabilities in active markets,
- quoted prices for identical or similar assets or liabilities in inactive markets,
- inputs other than quoted prices that are observable for the asset or liability, and
- inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The asset or liability’s fair value measurement level within the hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Fair Values of Financial Instruments

The fair values of “Cash and cash equivalents,” “Accounts receivable – net,” “Accounts payable,” and “Short-term debt” approximate carrying values because of the short maturity of these financial instruments. The carrying value of COLI is recorded at cash surrender value and, accordingly, approximates fair value. There are no other assets or liabilities measured at fair value on a recurring basis at December 31, 2022 or 2021. The carrying amounts and estimated fair values, based on Level 1 inputs, of long-term debt consist of the following at December 31:

	2022		2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	<i>(\$ in millions)</i>			
Long-term debt, including current maturities	\$ (15,082)	\$ (13,846)	\$ (13,840)	\$ (17,033)

6. Investments

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Long-term investments:		
Equity method investments:		
Conrail	\$ 1,584	\$ 1,526
TTX Company	918	851
Other	421	420
Total equity method investments	<u>2,923</u>	<u>2,797</u>
COLI at net cash surrender value	752	885
Other investments	<u>19</u>	<u>25</u>
Total long-term investments	<u>\$ 3,694</u>	<u>\$ 3,707</u>

Investment in Conrail

Through a limited liability company, we and CSX jointly own Conrail, whose primary subsidiary is CRC. We have a 58% economic and 50% voting interest in the jointly-owned entity, and CSX has the remainder of the economic and voting interests. We are amortizing the excess of the purchase price over Conrail’s net equity using the principles of purchase accounting, based primarily on the estimated useful lives of Conrail’s depreciable property and equipment, including the related deferred tax effect of the differences in book and tax accounting bases for such assets, as all of the purchase price at acquisition was allocable to Conrail’s tangible assets and liabilities. At December 31, 2022, our investment in Conrail exceeds our share of Conrail’s underlying net equity by \$480 million.

CRC owns and operates certain properties (the Shared Assets Areas) for the joint and exclusive benefit of NSR and CSX Transportation, Inc. (CSXT). The costs of operating the Shared Assets Areas are borne by NSR and CSXT based on usage. In addition, NSR and CSXT pay CRC a fee for access to the Shared Assets Areas. “Purchased services and rents” and “Fuel” include expenses payable to CRC for operation of the Shared Assets Areas totaling \$156 million in 2022, \$147 million in 2021, and \$129 million in 2020. Future payments for access fees due to CRC under the Shared Assets Areas agreements are as follows: \$42 million in each of 2023 through 2027 and \$62 million

thereafter. We provide certain general and administrative support functions to Conrail, the fees for which are billed in accordance with several service-provider arrangements and approximate \$6 million annually.

In 2020, we converted \$254 million of accounts payable into long-term advances from Conrail included in “Other liabilities.” “Accounts payable” includes \$173 million at December 31, 2022, and \$112 million at December 31, 2021, due to Conrail for the operation of the Shared Assets Areas. “Other liabilities” includes \$534 million at December 31, 2022 and 2021, respectively, for long-term advances from Conrail, maturing in 2050 that bear interest at an average rate of 1.31%.

Our equity in Conrail’s earnings, net of amortization, was \$58 million for 2022, \$56 million for 2021, and \$58 million for 2020. These amounts partially offset the costs of operating the Shared Assets Areas and are included in “Purchased services and rents.” Equity in Conrail’s earnings is included in the “Other – net” line item within operating activities in the Consolidated Statements of Cash Flows.

Investment in TTX

We and seven other North American railroads collectively own TTX Company (TTX), a railcar pooling company that provides its owner-railroads with standardized fleets of intermodal, automotive, and general use railcars at stated rates. We have a 19.78% ownership interest in TTX.

Expenses incurred for use of TTX equipment are included in “Purchased services and rents.” This amounted to \$256 million, \$246 million, and \$250 million, respectively, for the years ended December 31, 2022, 2021 and 2020. Our equity in TTX’s earnings partially offsets these costs and totaled \$53 million for 2022 and 2021, respectively, and \$48 million for 2020. Equity in TTX’s earnings is included in the “Other – net” line item within operating activities in the Consolidated Statements of Cash Flows.

Impairment of Investment

In 2020, we recorded an other-than-temporary impairment of \$99 million related to the carrying value of an equity method investment. This non-cash impairment charge is recorded in “Purchased services and rents” on the Consolidated Statements of Income and had a \$74 million impact on net income.

7. Properties

December 31, 2022	<u>Cost</u>	<u>Accumulated Depreciation</u> <i>(\$ in millions)</i>	<u>Net Book Value</u>	<u>Depreciation Rate ⁽¹⁾</u>
Land	\$ 2,405	\$ —	\$ 2,405	—
Roadway:				
Rail and other track material	7,589	(1,971)	5,618	2.42%
Ties	5,981	(1,696)	4,285	3.49%
Ballast	3,126	(873)	2,253	2.84%
Construction in process	431	—	431	—
Other roadway	14,270	(3,948)	10,322	2.69%
Total roadway	<u>31,397</u>	<u>(8,488)</u>	<u>22,909</u>	
Equipment:				
Locomotives	5,878	(2,060)	3,818	3.66%
Freight cars	2,701	(1,033)	1,668	2.51%
Computers and software	926	(476)	450	9.10%
Construction in process	206	—	206	—
Other equipment	1,145	(463)	682	4.51%
Total equipment	<u>10,856</u>	<u>(4,032)</u>	<u>6,824</u>	
Other property	<u>90</u>	<u>(72)</u>	<u>18</u>	2.26%
Total properties	<u>\$ 44,748</u>	<u>\$ (12,592)</u>	<u>\$ 32,156</u>	

December 31, 2021	<u>Cost</u>	<u>Accumulated Depreciation</u> <i>(\$ in millions)</i>	<u>Net Book Value</u>	<u>Depreciation Rate⁽¹⁾</u>
Land	\$ 2,453	\$ —	\$ 2,453	—
Roadway:				
Rail and other track material	7,330	(1,907)	5,423	2.40%
Ties	5,779	(1,642)	4,137	3.44%
Ballast	3,041	(818)	2,223	2.79%
Construction in process	339	—	339	—
Other roadway	14,111	(3,733)	10,378	2.69%
Total roadway	<u>30,600</u>	<u>(8,100)</u>	<u>22,500</u>	
Equipment:				
Locomotives	5,695	(1,994)	3,701	3.87%
Freight cars	2,701	(1,009)	1,692	2.59%
Computers and software	893	(438)	455	10.34%
Construction in process	164	—	164	—
Other equipment	1,088	(420)	668	4.63%
Total equipment	<u>10,541</u>	<u>(3,861)</u>	<u>6,680</u>	
Other property	<u>90</u>	<u>(70)</u>	<u>20</u>	2.25%
Total properties	<u>\$ 43,684</u>	<u>\$ (12,031)</u>	<u>\$ 31,653</u>	

⁽¹⁾ Composite annual depreciation rate for the underlying assets, excluding the effects of the amortization of any deficiency (or excess) that resulted from our depreciation studies.

Loss on Asset Disposal

In 2020, we sold 703 locomotives deemed excess and no longer needed for railroad operations. We evaluated these locomotive retirements and concluded they were abnormal (see Note 1). Accordingly, we recorded a \$385 million loss to adjust their carrying amount to their estimated fair value, which resulted in a \$97 million tax benefit.

Capitalized Interest

Total interest cost incurred on debt was \$708 million, \$657 million, and \$639 million during 2022, 2021 and 2020, respectively, of which \$16 million, \$11 million, and \$14 million was capitalized during 2022, 2021 and 2020, respectively.

8. Current Liabilities

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Accounts payable:		
Accounts and wages payable	\$ 712	\$ 850
Due to Conrail (Note 6)	173	112
Casualty and other claims (Note 17)	170	166
Vacation liability	136	119
Other	102	104
	<u>1,293</u>	<u>1,351</u>
Total	\$ 1,293	\$ 1,351
Other current liabilities:		
Interest payable	\$ 157	\$ 150
Current operating lease liability (Note 10)	94	82
Pension benefit obligations (Note 12)	20	20
Other	70	60
	<u>341</u>	<u>312</u>
Total	\$ 341	\$ 312

9. Debt

Debt maturities are presented below:

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Notes and debentures, with weighted-average interest rates as of December 31, 2022:		
3.95% maturing to 2027	\$ 2,770	\$ 3,318
3.66% maturing 2028 to 2032	2,595	1,995
4.05% maturing 2037 to 2055	9,247	8,097
5.22% maturing 2097 to 2121	1,384	1,384
Securitization borrowings and finance leases	116	22
Discounts, premiums, and debt issuance costs	(930)	(976)
Total debt	<u>15,182</u>	<u>13,840</u>
Less current maturities and short-term debt	<u>(703)</u>	<u>(553)</u>
Long-term debt excluding current maturities and short-term debt	\$ 14,479	\$ 13,287

Long-term debt maturities subsequent to 2023 are as follows:

2024	\$ 403
2025	554
2026	602
2027	621
2028 and subsequent years	<u>12,299</u>
Total	<u>\$ 14,479</u>

In June 2022, we issued \$750 million of 4.55% senior notes due 2053.

In February 2022, we issued \$600 million of 3.00% senior notes due 2032 and \$400 million of 3.70% senior notes due 2053.

In May 2022, we renewed our accounts receivable securitization program with a maximum borrowing capacity of \$400 million. The term expires in May 2023. Under this facility NSR sells substantially all of its eligible third-party receivables to a subsidiary, which in turn may transfer beneficial interests in the receivables to various commercial paper vehicles. Amounts received under this facility are accounted for as borrowings. We had \$100 million (at an average variable interest rate of 5.05%) outstanding under this program at December 31, 2022, which is included within “Short-term debt”, and no amounts outstanding at December 31, 2021. Our available borrowing capacity was \$300 million and \$400 million at December 31, 2022 and December 31, 2021, respectively. Our accounts receivable securitization program was supported by \$883 million in receivables at December 31, 2022, which are included in “Accounts receivable – net”.

Credit Agreement and Debt Covenants

We also have in place and available an \$800 million credit agreement expiring in March 2025, which provides for borrowings at prevailing rates and includes covenants. We had no amounts outstanding under this facility at either December 31, 2022 or December 31, 2021, and we are in compliance with all of its covenants.

Subsequent Event

On February 2, 2023, we issued \$500 million of 4.45% senior notes due 2033.

10. Leases

We are committed under long-term lease agreements for equipment, lines of road, and other property. We combine lease and non-lease components for new and reassessed leases. Some of these agreements are variable lease agreements that include usage-based payments. These agreements contain payment provisions that depend on an index or rate, initially measured using the index or rate at the lease commencement date, and are therefore not included in our future minimum lease payments. Our long-term lease agreements do not contain any material restrictive covenants.

Our equipment leases have remaining terms of less than 1 year to 7 years and our lines of road and land leases have remaining terms of less than 1 year to 135 years. Some of these leases include options to extend the leases for up to 99 years and some include options to terminate the leases within 30 days. Because we are not reasonably certain to exercise these renewal options, the options are not considered in determining the lease term, and associated payments are excluded from future minimum lease payments.

Leases with an initial term of twelve months or less are not recorded on the balance sheet. We recognize lease expense for these leases on a straight-line basis over the lease term.

Operating lease amounts included on the Consolidated Balance Sheets are as follows:

		December 31,	
		2022	2021
		<i>(\$ in millions)</i>	
		Classification	
Assets			
Right-of-use (ROU) assets	Other assets	\$ 407	\$ 411
Liabilities			
Current lease liabilities	Other current liabilities	\$ 94	\$ 82
Non-current lease liabilities	Other liabilities	316	331
Total lease liabilities		\$ 410	\$ 413

The components of total lease expense, primarily included in “Purchased services and rents,” are as follows:

	2022	2021	2020
	<i>(\$ in millions)</i>		
Operating lease expense	\$ 101	\$ 106	\$ 109
Variable lease expense	55	44	42
Short-term lease expense	18	9	9
Total lease expense	\$ 174	\$ 159	\$ 160

In March 2019, we entered into a non-cancellable lease for an office building. In 2021, the construction of the office building was completed and the lease commenced. The initial lease term is five years with options to renew, purchase, or sell the office building at the end of the lease term. The lease contains a residual value guarantee of up to eighty-three percent of the total construction cost of \$499 million.

Other information related to operating leases is as follows:

	December 31,	
	2022	2021
Weighted-average remaining lease term (years) on operating leases	6.67	7.49
Weighted-average discount rates on operating leases	3.16%	3.04%

As the rates implicit in most of our leases are not readily determinable, we use a collateralized incremental borrowing rate based on the information available at the lease commencement date in determining the present value of future payments. We use the portfolio approach and group leases into short-, medium-, and long-term categories, applying the corresponding incremental borrowing rates to these categories.

During 2022 and 2021, respectively, ROU assets obtained in exchange for new operating lease liabilities were \$57 million at both periods. Cash paid for amounts included in the measurement of lease liabilities was \$100 million and \$103 million in 2022 and 2021, respectively, and is included in operating cash flows.

Future minimum lease payments under non-cancellable operating leases are as follows:

	December 31, 2022	
	<i>(\$ in millions)</i>	
2023	\$	103
2024		95
2025		87
2026		69
2027		27
2028 and subsequent years		81
Total lease payments		<u>462</u>
Less: Interest		<u>52</u>
Present value of lease liabilities	<u>\$</u>	<u>410</u>

	December 31, 2021	
	<i>(\$ in millions)</i>	
2022	\$	92
2023		83
2024		73
2025		69
2026		55
2027 and subsequent years		98
Total lease payments		<u>470</u>
Less: Interest		<u>57</u>
Present value of lease liabilities	<u>\$</u>	<u>413</u>

11. Other Liabilities

	December 31,	
	2022	2021
	<i>(\$ in millions)</i>	
Long-term advances from Conrail (Note 6)	\$ 534	\$ 534
Non-current operating lease liability (Note 10)	316	331
Net pension benefit obligations (Note 12)	255	338
Casualty and other claims (Note 17)	218	170
Net other postretirement benefit obligations (Note 12)	204	244
Deferred compensation	91	109
Other	141	153
Total	<u>\$ 1,759</u>	<u>\$ 1,879</u>

12. Pensions and Other Postretirement Benefits

We have both funded and unfunded defined benefit pension plans covering eligible employees. We also provide specified health care benefits to eligible retired employees; these plans can be amended or terminated at our option. Under our self-insured retiree health care plan, for those participants who are not Medicare-eligible, certain health care expenses are covered for retired employees and their dependents, reduced by any deductibles, coinsurance, and, in some cases, coverage provided under other group insurance policies. Eligible retired participants and their spouses who are Medicare-eligible are not covered under the self-insured retiree health care plan, but instead are provided with an employer-funded health reimbursement account which can be used for reimbursement of health insurance premiums or eligible out-of-pocket medical expenses.

Pension and Other Postretirement Benefit Obligations and Plan Assets

	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
	<i>(\$ in millions)</i>			
Change in benefit obligations:				
Benefit obligation at beginning of year	\$ 2,777	\$ 2,845	\$ 417	\$ 471
Service cost	40	43	6	6
Interest cost	67	55	9	7
Actuarial gains	(677)	(13)	(70)	(29)
Plan amendments	(4)	(2)	—	—
Benefits paid	(152)	(151)	(36)	(38)
Benefit obligation at end of year	<u>2,051</u>	<u>2,777</u>	<u>326</u>	<u>417</u>
Change in plan assets:				
Fair value of plan assets at beginning of year	2,861	2,675	173	165
Actual return on plan assets	(470)	317	(28)	29
Employer contributions	21	20	13	17
Benefits paid	(152)	(151)	(36)	(38)
Fair value of plan assets at end of year	<u>2,260</u>	<u>2,861</u>	<u>122</u>	<u>173</u>
Funded status at end of year	<u>\$ 209</u>	<u>\$ 84</u>	<u>\$ (204)</u>	<u>\$ (244)</u>
Amounts recognized in the Consolidated Balance Sheets:				
Other assets	\$ 484	\$ 442	\$ —	\$ —
Other current liabilities	(20)	(20)	—	—
Other liabilities	(255)	(338)	(204)	(244)
Net amount recognized	<u>\$ 209</u>	<u>\$ 84</u>	<u>\$ (204)</u>	<u>\$ (244)</u>
Amounts included in accumulated other comprehensive loss (before tax):				
Net (gain) loss	\$ 623	\$ 666	\$ (19)	\$ 10
Prior service benefit	(6)	(2)	(177)	(202)

Our accumulated benefit obligation for our defined benefit pension plans is \$1.9 billion and \$2.6 billion at December 31, 2022 and 2021, respectively. Our unfunded pension plans, included above, which in all cases have no assets, had projected benefit obligations of \$275 million and \$358 million at December 31, 2022 and 2021, respectively, and had accumulated benefit obligations of \$249 million and \$332 million at December 31, 2022 and 2021, respectively.

Pension and Other Postretirement Benefit Cost Components

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
Pension benefits:			
Service cost	\$ 40	\$ 43	\$ 40
Interest cost	67	55	74
Expected return on plan assets	(213)	(193)	(190)
Amortization of net losses	49	66	51
Amortization of prior service cost	—	—	1
	<u>—</u>	<u>—</u>	<u>1</u>
Net benefit	<u>\$ (57)</u>	<u>\$ (29)</u>	<u>\$ (24)</u>
Other postretirement benefits:			
Service cost	\$ 6	\$ 6	\$ 6
Interest cost	9	7	12
Expected return on plan assets	(13)	(12)	(14)
Amortization of net losses	—	1	—
Amortization of prior service benefit	(25)	(26)	(25)
	<u>(25)</u>	<u>(26)</u>	<u>(25)</u>
Net benefit	<u>\$ (23)</u>	<u>\$ (24)</u>	<u>\$ (21)</u>

Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income

	2022	
	Pension Benefits	Other Postretirement Benefits
	<i>(\$ in millions)</i>	
Net (gains) losses arising during the year	\$ 6	\$ (29)
Prior service effect of plan amendment	(4)	—
Amortization of net losses	(49)	—
Amortization of prior service benefit	—	25
	<u>—</u>	<u>25</u>
Total recognized in other comprehensive income	<u>\$ (47)</u>	<u>\$ (4)</u>
Total recognized in net periodic cost and other comprehensive income	<u>\$ (104)</u>	<u>\$ (27)</u>

Net losses arising during the year for pension benefits were due primarily to lower actual returns on plan assets offset by an increase in discount rates. Net gains arising during the year for other postretirement benefits were due primarily to an increase in discount rates, partially offset by lower actual returns on plan assets.

The estimated net losses and prior service credits for the pension plans that will be amortized from accumulated other comprehensive loss into net periodic cost over the next year are \$4 million. The estimated net gains and prior service benefit for the other postretirement benefit plans that will be amortized from accumulated other comprehensive loss into net periodic benefit over the next year is \$26 million.

Pension and Other Postretirement Benefits Assumptions

Costs for pension and other postretirement benefits are determined based on actuarial valuations that reflect appropriate assumptions as of the measurement date, ordinarily the beginning of each year. The funded status of the plans is determined using appropriate assumptions as of each year end. A summary of the major assumptions follows:

	2022	2021	2020
Pension funded status:			
Discount rate	5.56%	2.97%	2.67%
Future salary increases	4.44%	4.44%	4.21%
Other postretirement benefits funded status:			
Discount rate	5.45%	2.72%	2.27%
Pension cost:			
Discount rate - service cost	3.25%	3.14%	3.71%
Discount rate - interest cost	2.45%	1.95%	2.92%
Return on assets in plans	8.00%	8.00%	8.25%
Future salary increases	4.44%	4.44%	4.21%
Other postretirement benefits cost:			
Discount rate - service cost	3.01%	2.71%	3.41%
Discount rate - interest cost	2.13%	1.57%	2.69%
Return on assets in plans	7.75%	7.75%	8.00%
Health care trend rate	6.50%	6.00%	6.25%

To determine the discount rates used to measure our benefit obligations, we utilize analyses in which the projected annual cash flows from the pension and other postretirement benefit plans were matched with yield curves based on an appropriate universe of high-quality corporate bonds. We use the results of the yield curve analyses to select the discount rates that match the payment streams of the benefits in these plans.

We use a spot rate approach to estimate the service cost and interest cost components of net periodic benefit cost for our pension and other postretirement benefit plans.

Health Care Cost Trend Assumptions

For measurement purposes at December 31, 2022, increases in the per capita cost of pre-Medicare covered health care benefits were assumed to be 7.0% for 2023. We assume the rate will ratably decrease to an ultimate rate of 5.0% for 2030 and remain at that level thereafter.

Assumed health care cost trend rates affect the amounts reported in the financial statements. To illustrate, a one-percentage point change in the assumed health care cost trend would have the following effects:

	One-percentage Point	
	Increase	Decrease
	<i>(\$ in millions)</i>	
Increase (decrease) in:		
Total service and interest cost components	\$ 1	\$ (1)
Postretirement benefit obligation	6	(5)

Asset Management

Thirteen investment firms manage our defined benefit pension plan's assets under investment guidelines approved by our Benefits Investment Committee that is composed of members of our management. Investments are restricted to domestic and international equity securities, domestic and international fixed income securities, and unleveraged exchange-traded options and financial futures. Limitations restrict investment concentration and use of certain derivative investments. The target asset allocation for equity is 75% of the pension plan's assets. Fixed income investments must consist predominantly of securities rated investment grade or higher. Equity investments must be in liquid securities listed on national exchanges. No investment is permitted in our securities (except through commingled pension trust funds).

Our pension plan's weighted-average asset allocations, by asset category, were as follows:

	Percentage of Plan Assets at December 31,	
	2022	2021
Domestic equity securities	53%	52%
Debt securities	26%	24%
International equity securities	20%	23%
Cash and cash equivalents	1%	1%
 Total	 <u>100%</u>	 <u>100%</u>

The other postretirement benefit plan assets consist primarily of trust-owned variable life insurance policies with an asset allocation at December 31, 2022 of 64% in equity securities and 36% in debt securities compared with 65% in equity securities and 35% in debt securities at December 31, 2021. The target asset allocation for equity is between 50% and 75% of the plan's assets.

The plans' assumed future returns are based principally on the asset allocations and historical returns for the plans' asset classes determined from both actual plan returns and, over longer time periods, expected market returns for those asset classes. For 2023, we assume an 8.00% return on pension plan assets.

Fair Value of Plan Assets

The following is a description of the valuation methodologies used for pension plan assets measured at fair value.

Common stock: Shares held by the plan at year end are valued at the official closing price as defined by the exchange or at the most recent trade price of the security at the close of the active market.

Common collective trusts: The readily determinable fair value is based on the published fair value per unit of the trusts. The common collective trusts hold equity securities, fixed income securities and cash and cash equivalents.

Fixed income securities: Valued based on quotes received from independent pricing services or at an estimated price at which a dealer would pay for the security at year end using observable market-based inputs.

Commingled funds: The readily determinable fair value is based on the published fair value per unit of the funds. The commingled funds hold equity securities.

Cash and cash equivalents: Short-term Treasury bills or notes are valued at an estimated price at which a dealer would pay for the security at year end using observable market-based inputs; money market funds are valued at the closing price reported on the active market on which the funds are traded.

The following table sets forth the pension plan's assets by valuation technique level, within the fair value hierarchy. There were no level 3 valued assets at December 31, 2022 or 2021.

	December 31, 2022		
	Level 1	Level 2	Total
	<i>(\$ in millions)</i>		
Common stock	\$ 1,011	\$ —	\$ 1,011
Common collective trusts:			
International equity securities	—	336	336
Debt securities	—	291	291
Domestic equity securities	—	160	160
Fixed income securities:			
Government and agencies securities	—	158	158
Corporate bonds	—	100	100
Mortgage and other asset-backed securities	—	28	28
Commingled funds	—	121	121
Cash and cash equivalents	55	—	55
Total investments	<u>\$ 1,066</u>	<u>\$ 1,194</u>	<u>\$ 2,260</u>

	December 31, 2021		
	Level 1	Level 2	Total
	<i>(\$ in millions)</i>		
Common stock	\$ 1,383	\$ —	\$ 1,383
Common collective trusts:			
International equity securities	—	397	397
Debt securities	—	367	367
Domestic equity securities	—	189	189
Fixed income securities:			
Government and agencies securities	—	170	170
Corporate bonds	—	120	120
Mortgage and other asset-backed securities	—	33	33
Commingled funds	—	160	160
Cash and cash equivalents	42	—	42
Total investments	<u>\$ 1,425</u>	<u>\$ 1,436</u>	<u>\$ 2,861</u>

The following is a description of the valuation methodologies used for other postretirement benefit plan assets measured at fair value.

Trust-owned life insurance: Valued at our interest in trust-owned life insurance issued by a major insurance company. The underlying investments owned by the insurance company consist of a U.S. stock account and a U.S. bond account but may retain cash at times as well. The U.S. stock account and U.S. bond account are valued based on readily determinable fair values.

The other postretirement benefit plan assets consisted of trust-owned life insurance with fair values of \$122 million and \$173 million at December 31, 2022 and 2021, respectively, and are valued under level 2 of the fair value hierarchy. There were no level 1 or level 3 valued assets.

Contributions and Estimated Future Benefit Payments

In 2023, we expect to contribute approximately \$20 million to our unfunded pension plans for payments to pensioners and approximately \$33 million to our other postretirement benefit plans for retiree health and death benefits. We do not expect to contribute to our funded pension plan in 2023.

Benefit payments, which reflect expected future service, as appropriate, are expected to be paid as follows:

	Pension Benefits	Other Postretirement Benefits
	<i>(\$ in millions)</i>	
2023	\$ 148	\$ 33
2024	148	32
2025	147	31
2026	147	30
2027	147	29
Years 2028 – 2032	736	135

Other Postretirement Coverage

Under collective bargaining agreements, Norfolk Southern and certain subsidiaries participate in a multi-employer benefit plan, which provides certain postretirement health care and life insurance benefits to eligible craft employees. Premiums under this plan are expensed as incurred and totaled \$13 million in 2022, \$21 million in 2021, and \$22 million in 2020.

Section 401(k) Plans

Norfolk Southern and certain subsidiaries provide Section 401(k) savings plans for employees. Under the plans, we match a portion of employee contributions, subject to applicable limitations. Our matching contributions, recorded as an expense, totaled \$22 million in 2022, \$23 million in 2021, and \$21 million in 2020.

13. Stock-Based Compensation

Under the stockholder-approved LTIP, the Human Capital Management and Compensation Committee (Committee), which is made up of nonemployee members of the Board, or the Chief Executive Officer (when delegated authority by such Committee), may grant stock options, stock appreciation rights (SARs), restricted stock units (RSUs), restricted shares, performance share units (PSUs), and performance shares, up to a maximum of 104,125,000 shares of our Common Stock, of which 8,238,993 remain available for future grants as of December 31, 2022.

The number of shares remaining for issuance under the LTIP is reduced (i) by 1 for each award granted as a stock option or stock-settled SAR, or (ii) by 1.61 for an award made in the form other than a stock option or stock-settled SAR. Under the Board-approved Thoroughbred Stock Option Plan (TSOP), the Committee may grant stock options up to a maximum of 6,000,000 shares of Common Stock. We use newly issued shares to satisfy any exercises and awards under the LTIP and the TSOP.

The LTIP also permits the payment, on a current or a deferred basis and in cash or in stock, of dividend equivalents on shares of Common Stock covered by stock options, RSUs, or PSUs in an amount commensurate with regular quarterly dividends paid on Common Stock. With respect to stock options, if employment of the participant is terminated for any reason, including retirement, disability, or death, we have no further obligation to make any dividend equivalent payments. Regarding RSUs, we have no further obligation to make any dividend equivalent payments unless employment of the participant is terminated as a result of qualifying retirement or disability. Should an employee terminate employment, they are not required to forfeit dividend equivalent payments already received. Outstanding PSUs do not receive dividend equivalent payments.

The Committee granted stock options, RSUs and PSUs pursuant to the LTIP for the last three years as follows:

	2022		2021		2020	
	Granted	Weighted-Average Grant-Date Fair Value	Granted	Weighted-Average Grant-Date Fair Value	Granted	Weighted-Average Grant-Date Fair Value
Stock options	140,080	\$ 61.32	42,770	\$ 62.49	43,770	\$ 52.05
RSUs	180,306	265.21	183,093	240.09	178,190	210.11
PSUs	58,945	272.22	50,100	240.72	78,830	212.66

Recipients of certain RSUs and PSUs pursuant to the LTIP who retire prior to October 1st will forfeit awards received in the current year. Receipt of certain LTIP awards is contingent on the recipient having executed a non-compete agreement with the company.

We account for our grants of stock options, RSUs, PSUs, and dividend equivalent payments in accordance with FASB ASC 718, “*Compensation - Stock Compensation.*” Accordingly, all awards result in charges to net income while dividend equivalent payments, which are all related to equity classified awards, are charged to retained income. Compensation cost for the awards is recognized on a straight-line basis over the requisite service period for the entire award. Related compensation costs and tax benefits during the years were:

	2022	2021	2020
	(\$ in millions)		
Stock-based compensation expense	\$ 53	\$ 54	\$ 28
Total tax benefit	27	34	44

Stock Options

Option exercise prices will be at least the higher of (i) the average of the high and low prices at which Common Stock is traded on the grant date, or (ii) the closing price of Common Stock on the grant date. All options are subject to a vesting period of at least one year, and the term of the option will not exceed ten years. Holders of the options granted under the LTIP who remain actively employed receive cash dividend equivalent payments for four years in an amount equal to the regular quarterly dividends paid on Common Stock.

For all years, options granted under the LTIP and the TSOP may not be exercised prior to the fourth and third anniversaries of the date of grant, respectively, or if the optionee retires or dies before that anniversary date, may not be exercised before the later of one year after the grant date or the date of the optionee’s retirement or death.

The fair value of each option awarded was measured on the date of grant using the Black-Scholes valuation model. Expected volatility is based on implied volatility from traded options on, and historical volatility of, Common Stock. Historical data is used to estimate option exercises and employee terminations within the valuation model. Historical exercise data is used to estimate the average expected option term. The average risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. A dividend yield of zero was used for the LTIP options during the vesting period. For 2022, 2021, and 2020, a dividend yield of 1.85%, 1.64%, and 1.76%, respectively, was used for the vested period during the remaining expected option term for LTIP options.

The assumptions for the LTIP grants for the last three years are shown in the following table:

	<u>2022</u>	<u>2021</u>	<u>2020</u>
Average expected volatility	27%	26%	22%
Average risk-free interest rate	1.80%	0.75%	1.47%
Average expected option term	6.5 years	7.5 years	7.5 years

A summary of changes in stock options is presented below:

	<u>Stock Options</u>	<u>Weighted- Average Exercise Price</u>
Outstanding at December 31, 2021	1,095,895	\$ 106.58
Granted	140,080	287.31
Exercised	(307,660)	82.72
Forfeited	<u>(48,313)</u>	270.92
Outstanding at December 31, 2022	<u>880,002</u>	134.66

The aggregate intrinsic value of options outstanding at December 31, 2022 was \$103 million with a weighted-average remaining contractual term of 4.1 years. Of these options outstanding, 742,810 were exercisable and had an aggregate intrinsic value of \$101 million with a weighted-average exercise price of \$110.09 and a weighted-average remaining contractual term of 2.1 years.

The following table provides information related to options exercised for the last three years:

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
Options exercised	307,660	470,632	1,171,786
Total intrinsic value	\$ 54	\$ 83	\$ 144
Cash received upon exercise	25	42	98
Related tax benefits realized	12	17	29

At December 31, 2022, total unrecognized compensation related to options granted under the LTIP was \$3 million, and is expected to be recognized over a weighted-average period of approximately 3.0 years.

Restricted Stock Units

RSUs granted primarily have a four-year ratable restriction period and will be settled through the issuance of shares of Common Stock. Certain RSU grants include cash dividend equivalent payments during the restriction period in an amount equal to regular quarterly dividends paid on Common Stock. The fair value of each RSU was measured on the date of grant as the average of the high and low prices at which Common Stock is traded on the grant date, adjusted for the impact of dividend equivalent payments as applicable.

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
RSUs vested	249,138	260,307	204,665
Common Stock issued net of tax withholding	175,781	184,319	146,047
Related tax benefits realized	\$ 5	\$ 7	\$ 4

A summary of changes in RSUs is presented below:

	<u>RSUs</u>	<u>Weighted-Average Grant-Date Fair Value</u>
Nonvested at December 31, 2021	501,103	\$ 193.23
Granted	180,306	265.21
Vested	(249,138)	168.66
Forfeited	<u>(44,890)</u>	244.99
Nonvested at December 31, 2022	<u><u>387,381</u></u>	236.53

At December 31, 2022, total unrecognized compensation related to RSUs was \$37 million, and is expected to be recognized over a weighted-average period of approximately 2.6 years.

Performance Share Units

PSUs provide for awards based on the achievement of certain predetermined corporate performance goals at the end of a three-year cycle and are settled through the issuance of shares of Common Stock. All PSUs will earn out based on the achievement of performance conditions and some will also earn out based on a market condition. The market condition fair value was measured on the date of grant using a Monte Carlo simulation model.

	<u>2022</u>	<u>2021</u>	<u>2020</u>
	<i>(\$ in millions)</i>		
PSUs earned	86,420	78,727	235,935
Common Stock issued net of tax withholding	54,651	49,967	156,477
Related tax benefits realized	\$ 1	\$ 1	\$ 7

A summary of changes in PSUs is presented below:

	<u>PSUs</u>	<u>Weighted-Average Grant-Date Fair Value</u>
Balance at December 31, 2021	202,930	\$ 197.33
Granted	58,945	272.22
Earned	(86,420)	161.14
Unearned	(260)	161.14
Forfeited	<u>(32,758)</u>	254.83
Balance at December 31, 2022	<u><u>142,437</u></u>	236.70

At December 31, 2022, total unrecognized compensation related to PSUs granted under the LTIP was \$3 million, and is expected to be recognized over a weighted-average period of approximately 1.7 years.

Shares Available and Issued

Shares of Common Stock available for future grants and issued in connection with all features of the LTIP and the TSOP at December 31, were as follows:

	<u>2022</u>	<u>2021</u>	<u>2020</u>
Available for future grants:			
LTIP	8,238,993	8,609,075	8,995,582
TSOP	436,402	435,867	435,699
Issued:			
LTIP	503,090	632,279	1,270,208
TSOP	35,002	72,639	204,102

14. Stockholders' Equity

Common Stock

Common Stock is reported net of shares held by our consolidated subsidiaries (Treasury Shares). Treasury Shares at December 31, 2022 and 2021 amounted to 20,320,777, with a cost of \$19 million at both dates.

Accumulated Other Comprehensive Loss

The components of “Other comprehensive income (loss)” reported in the Consolidated Statements of Comprehensive Income and changes in the cumulative balances of “Accumulated other comprehensive loss” reported in the Consolidated Balance Sheets consisted of the following:

	Balance at Beginning of Year	Net Income	Reclassification Adjustments	Balance at End of Year
	<i>(\$ in millions)</i>			
Year ended December 31, 2022				
Pensions and other postretirement liabilities	\$ (356)	\$ 20	\$ 17	\$ (319)
Other comprehensive income of equity investees	(46)	14	—	(32)
	<u>\$ (402)</u>	<u>\$ 34</u>	<u>\$ 17</u>	<u>\$ (351)</u>
Year ended December 31, 2021				
Pensions and other postretirement liabilities	\$ (526)	\$ 139	\$ 31	\$ (356)
Other comprehensive income of equity investees	(68)	22	—	(46)
	<u>\$ (594)</u>	<u>\$ 161</u>	<u>\$ 31</u>	<u>\$ (402)</u>

Other Comprehensive Income (Loss)

“Other comprehensive income (loss)” reported in the Consolidated Statements of Comprehensive Income consisted of the following:

	<u>Pretax Amount</u>	<u>Tax (Expense) Benefit</u>	<u>Net-of-Tax Amount</u>
	<i>(\$ in millions)</i>		
Year ended December 31, 2022			
Net gain arising during the year:			
Pensions and other postretirement benefits	\$ 27	\$ (7)	\$ 20
Reclassification adjustments for costs included in net income	24	(7)	17
Subtotal	51	(14)	37
Other comprehensive income of equity investees	17	(3)	14
Other comprehensive income	<u>\$ 68</u>	<u>\$ (17)</u>	<u>\$ 51</u>
Year ended December 31, 2021			
Net gain arising during the year:			
Pensions and other postretirement benefits	\$ 185	\$ (46)	\$ 139
Reclassification adjustments for costs included in net income	41	(10)	31
Subtotal	226	(56)	170
Other comprehensive income of equity investees	24	(2)	22
Other comprehensive income	<u>\$ 250</u>	<u>\$ (58)</u>	<u>\$ 192</u>
Year ended December 31, 2020			
Net loss arising during the year:			
Pensions and other postretirement benefits	\$ (167)	\$ 42	\$ (125)
Reclassification adjustments for costs included in net income	27	(7)	20
Subtotal	(140)	35	(105)
Other comprehensive income of equity investees	2	—	2
Other comprehensive loss	<u>\$ (138)</u>	<u>\$ 35</u>	<u>\$ (103)</u>

15. Stock Repurchase Programs

We repurchased and retired 12.6 million, 12.7 million, and 7.4 million shares of Common Stock under our stock repurchase programs in 2022, 2021, and 2020, respectively, at a cost of \$3.1 billion, \$3.4 billion, and \$1.4 billion, respectively.

On March 29, 2022, our Board of Directors authorized a new program for the repurchase of up to \$10.0 billion of

Common Stock beginning April 1, 2022. As of December 31, 2022, \$7.5 billion remains authorized for repurchase. Our previous share repurchase program terminated on March 31, 2022.

16. Earnings Per Share

The following table sets forth the calculation of basic and diluted earnings per share:

	Basic			Diluted		
	2022	2021	2020	2022	2021	2020
	<i>(\$ in millions except per share amounts, shares in millions)</i>					
Net income	\$ 3,270	\$ 3,005	\$ 2,013	\$ 3,270	\$ 3,005	\$ 2,013
Dividend equivalent payments	(2)	(2)	(3)	(1)	—	(2)
Income available to common stockholders	\$ 3,268	\$ 3,003	\$ 2,010	\$ 3,269	\$ 3,005	\$ 2,011
Weighted-average shares outstanding	234.8	246.9	255.1	234.8	246.9	255.1
Dilutive effect of outstanding options and share-settled awards				0.8	1.2	1.5
Adjusted weighted-average shares outstanding				235.6	248.1	256.6
Earnings per share	<u>\$ 13.92</u>	<u>\$ 12.16</u>	<u>\$ 7.88</u>	<u>\$ 13.88</u>	<u>\$ 12.11</u>	<u>\$ 7.84</u>

In each year, dividend equivalent payments were made to certain holders of stock options and RSUs. For purposes of computing basic earnings per share, dividend equivalent payments made to holders of stock options and RSUs were deducted from net income to determine income available to common stockholders. For purposes of computing diluted earnings per share, we evaluate on a grant-by-grant basis those stock options and RSUs receiving dividend equivalent payments under the two-class and treasury stock methods to determine which method is more dilutive for each grant. For those grants for which the two-class method was more dilutive, net income was reduced by dividend equivalent payments to determine income available to common stockholders. The dilution calculations exclude options having exercise prices exceeding the average market price of Common Stock as follows: 0.1 million in the year ended December 31, 2022 and none in the years ended December 31, 2021 and 2020.

17. Commitments and Contingencies

Lawsuits

We and/or certain subsidiaries are defendants in numerous lawsuits and other claims relating principally to railroad operations. When we conclude that it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated, it is accrued through a charge to earnings and, if material, disclosed below. While the ultimate amount of liability incurred in any of these lawsuits and claims is dependent on future developments, in our opinion, the recorded liability is adequate to cover the future payment of such liability and claims. However, the final outcome of any of these lawsuits and claims cannot be predicted with certainty, and unfavorable or unexpected outcomes could result in additional accruals that could be significant to results of operations in a particular year or quarter. Any adjustments to the recorded liability will be reflected in earnings in the periods in which such adjustments become known. For lawsuits and other claims where a loss may be reasonably possible, but not probable, or is probable but not reasonably estimable, no accrual is established but the matter, if potentially material, is disclosed below. We routinely review relevant information with respect to our lawsuits and other claims and update our accruals, disclosures and estimates of reasonably possible loss based on such reviews.

In 2007, various antitrust class actions filed against us and other Class I railroads in various Federal district courts regarding fuel surcharges were consolidated in the District of Columbia by the Judicial Panel on Multidistrict Litigation. In 2012, the court certified the case as a class action. The defendant railroads appealed this certification, and the Court of Appeals for the District of Columbia vacated the District Court's decision and remanded the case for further consideration. On October 10, 2017, the District Court denied class certification. The decision was upheld by the Court of Appeals on August 16, 2019. Since that decision, various individual cases have been filed in multiple jurisdictions and also consolidated in the District of Columbia. We believe the allegations in the complaints are without merit and intend to vigorously defend the cases. We do not believe the outcome of these proceedings will have a material effect on our financial position, results of operations, or liquidity.

In 2018, a lawsuit was filed against one of our subsidiaries by the minority owner in a jointly-owned terminal railroad company in which our subsidiary has the majority ownership. The lawsuit alleged violations of various state laws and federal antitrust laws. On January 3, 2023, the court granted summary judgment to us on all of the compensatory claims but denied summary judgment for all equitable relief claims. On January 18, 2023, the court dismissed the federal equitable relief claims, leaving the state equitable relief claims as the sole remaining issue under consideration. We expect the rulings will be appealed. A trial on the state equitable relief claims has not been scheduled. We continue to vigorously defend the lawsuit and, although it is reasonably possible we could incur a loss in the case, we believe that we will prevail. However, given that litigation is inherently unpredictable and subject to uncertainties, there can be no assurances that the final outcome of the litigation (including any related appeal) will not be material. Until such appeal is final, we cannot reasonably estimate the potential loss or range of loss associated with this matter.

Casualty Claims

Casualty claims include employee personal injury and occupational claims as well as third-party claims, all exclusive of legal costs. To aid in valuing our personal injury liability and determining the amount to accrue with respect to such claims during the year, we utilize studies prepared by an independent consulting actuarial firm. Job-related personal injury and occupational claims are subject to FELA, which is applicable only to railroads. The variability inherent in FELA's fault-based tort system could result in actual costs being different from the liability recorded. While the ultimate amount of claims incurred is dependent on future developments, in our opinion, the recorded liability is adequate to cover the future payments of claims and is supported by the most recent actuarial study. In all cases, we record a liability when the expected loss for the claim is both probable and reasonably estimable.

Employee personal injury claims – The largest component of claims expense is employee personal injury costs. The independent actuarial firm we engage provides quarterly studies to aid in valuing our employee personal injury liability and estimating personal injury expense. The actuarial firm studies our historical patterns of reserving for claims and subsequent settlements, taking into account relevant outside influences. The actuarial firm uses the results of these analyses to estimate the ultimate amount of liability. We adjust the liability quarterly based upon our assessment and the results of the study. The accuracy of our estimate of the liability is subject to inherent limitation given the difficulty of predicting future events such as jury decisions, court interpretations, or legislative changes. As a result, actual claim settlements may vary from the estimated liability recorded.

Occupational claims – Occupational claims include injuries and illnesses alleged to be caused by exposures which occur over time as opposed to injuries or illnesses caused by a specific accident or event. Types of occupational claims commonly seen allege exposure to asbestos and other claimed toxic substances resulting in respiratory diseases or cancer. Many such claims are being asserted by former or retired employees, some of whom have not been employed in the rail industry for decades. The independent actuarial firm provides an estimate of the occupational claims liability based upon our history of claim filings, severity, payments, and other pertinent facts. The liability is dependent upon judgments we make as to the specific case reserves as well as judgments of the actuarial firm in the quarterly studies. Our estimate of ultimate loss includes a provision for those claims that have been incurred but not reported. This provision is derived by analyzing industry data and projecting our experience. We adjust the liability quarterly based upon our assessment and the results of the study. However, it is

possible that the recorded liability may not be adequate to cover the future payment of claims. Adjustments to the recorded liability are reflected in operating expenses in the periods in which such adjustments become known.

Third-party claims – We record a liability for third-party claims including those for highway crossing accidents, trespasser and other injuries, property damage, and lading damage. The actuarial firm assists us with the calculation of potential liability for third-party claims, except lading damage, based upon our experience including the number and timing of incidents, amount of payments, settlement rates, number of open claims, and legal defenses. We adjust the liability quarterly based upon our assessment and the results of the study. Given the inherent uncertainty in regard to the ultimate outcome of third-party claims, it is possible that the actual loss may differ from the estimated liability recorded.

Environmental Matters

We are subject to various jurisdictions' environmental laws and regulations. We record a liability where such liability or loss is probable and reasonably estimable. Environmental specialists regularly participate in ongoing evaluations of all known sites and in determining any necessary adjustments to liability estimates.

Our Consolidated Balance Sheets include liabilities for environmental exposures of \$66 million at December 31, 2022, and \$49 million at December 31, 2021, of which \$15 million is classified as a current liability at the end of both 2022 and 2021. At December 31, 2022, the liability represents our estimates of the probable cleanup, investigation, and remediation costs based on available information at 85 known locations and projects compared with 88 locations and projects at December 31, 2021. At December 31, 2022, twenty-two sites accounted for \$55 million of the liability, and no individual site was considered to be material. We anticipate that most of this liability will be paid out over five years; however, some costs will be paid out over a longer period.

At eight locations, one or more of our subsidiaries in conjunction with a number of other parties have been identified as potentially responsible parties under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 or comparable state statutes that impose joint and several liability for cleanup costs. We calculate our estimated liability for these sites based on facts and legal defenses applicable to each site and not solely on the basis of the potential for joint liability.

With respect to known environmental sites (whether identified by us or by the Environmental Protection Agency or comparable state authorities), estimates of our ultimate potential financial exposure for a given site or in the aggregate for all such sites can change over time because of the widely varying costs of currently available cleanup techniques, unpredictable contaminant recovery and reduction rates associated with available cleanup technologies, the likely development of new cleanup technologies, the difficulty of determining in advance the nature and full extent of contamination and each potential participant's share of any estimated loss (and that participant's ability to bear it), and evolving statutory and regulatory standards governing liability.

The risk of incurring environmental liability for acts and omissions, past, present, and future, is inherent in the railroad business. Some of the commodities we transport, particularly those classified as hazardous materials, pose special risks that we work diligently to reduce. In addition, several of our subsidiaries own, or have owned, land used as operating property, or which is leased and operated by others, or held for sale. Because environmental problems that are latent or undisclosed may exist on these properties, there can be no assurance that we will not incur environmental liabilities or costs with respect to one or more of them, the amount and materiality of which cannot be estimated reliably at this time. Moreover, lawsuits and claims involving these and potentially other unidentified environmental sites and matters are likely to arise from time to time. The resulting liabilities could have a significant effect on financial position, results of operations, or liquidity in a particular year or quarter.

Based on our assessment of the facts and circumstances now known, we believe we have recorded the probable and reasonably estimable costs for dealing with those environmental matters of which we are aware. Further, we believe that it is unlikely that any known matters, either individually or in the aggregate, will have a material adverse effect on our financial position, results of operations, or liquidity.

Labor Agreements

Approximately 80% of our railroad employees are covered by collective bargaining agreements with various labor unions. Pursuant to the RLA, these agreements remain in effect until new agreements are reached, or until the bargaining procedures mandated by the RLA are completed. Moratorium provisions in the labor agreements govern when the railroads and unions may propose changes to the agreements. We largely bargain nationally in concert with other major railroads, represented by the National Carriers' Conference Committee.

After management and the unions served their formal proposals in November 2019 for changes to the collective bargaining agreements, negotiations began in 2020 following the expiration of the last moratorium. On June 17, 2022, the National Mediation Board notified the parties that all practical methods of ending the dispute had been exhausted without effecting a settlement and that its mediation services had been terminated. Shortly thereafter, President Biden created PEB No. 250, effective July 18, 2022, to investigate the facts of the dispute and make recommendations. The PEB issued its recommendations on August 16, 2022, and the parties engaged in further negotiations. By December 2022, agreements based on the PEB's recommendations had either been ratified or enacted through legislative action for all twelve unions. For 2022, "Compensation and benefits" includes \$54 million and "Purchased services and rents" includes \$2 million of additional expenses pertaining to wages earned prior to January 1, 2022.

While the parties are engaged in additional discussions to conclude the implementation of the recently finalized agreements, neither party can compel mandatory bargaining around any new proposals until November 1, 2024. That said, we understand the imperative to continue improving quality of life for our craft employees and are actively engaged in voluntary discussions (which carry no risk of a work stoppage) with all of our unions on this important issue.

Insurance

We purchase insurance covering legal liabilities for bodily injury and property damage to third parties. This insurance provides coverage above \$75 million and below \$800 million (\$1.1 billion for specific perils) per occurrence and/or policy year. In addition, we purchase insurance covering damage to property owned by us or in our care, custody, or control. This insurance covers approximately 82% of potential losses above \$75 million and below \$275 million per occurrence and/or policy year.

Purchase Commitments

At December 31, 2022, we had outstanding purchase commitments totaling \$1.7 billion through 2030 for locomotive modernizations, long-term technology support and development contracts, track material, and intermodal equipment.

Asset Purchase and Sale Agreement

In November 2022, we entered into an asset purchase and sale agreement with the Board of Trustees of the Cincinnati Southern Railway to purchase approximately 337 miles of railway line that extends from Cincinnati, Ohio to Chattanooga, Tennessee which we currently operate under a lease agreement. The total purchase price for the line and other associated real and personal property included in the transaction is approximately \$1.6 billion. The agreement is conditioned upon (i) certain changes to Ohio state law applicable to the use of the related sale proceeds, (ii) approval by the voters of the City of Cincinnati, and (iii) the receipt of regulatory approval from the STB. The agreement includes various termination provisions including termination at any time prior to closing by the mutual written consent of the parties, termination at any time after December 31, 2024 by the mutual written consent of the parties, termination by us if the STB takes action that we deem unsatisfactory, and termination by either party if Cincinnati voter approval is not obtained on or before the later of June 30, 2025 and the calendar date on which the polls are open for the 2025 Cincinnati primary election.

Change-In-Control Arrangements

We have compensation agreements with certain officers and key employees that become operative only upon a change in control of Norfolk Southern, as defined in those agreements. The agreements provide generally for payments based on compensation at the time of a covered individual's involuntary or other specified termination and for certain other benefits.

Indemnifications

In a number of instances, we have agreed to indemnify lenders for additional costs they may bear as a result of certain changes in laws or regulations applicable to their loans. Such changes may include impositions or modifications with respect to taxes, duties, reserves, liquidity, capital adequacy, special deposits, and similar requirements relating to extensions of credit by, deposits with, or the assets or liabilities of such lenders. The nature and timing of changes in laws or regulations applicable to our financings are inherently unpredictable, and therefore our exposure in connection with the foregoing indemnifications cannot be quantified. No liability has been recorded related to these indemnifications.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Our Chief Executive Officer and Chief Financial Officer, with the assistance of management, evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (Exchange Act)) at December 31, 2022. Based on such evaluation, our officers have concluded that, at December 31, 2022, our disclosure controls and procedures were effective to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized, and reported, within the time period specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting includes those policies and procedures that pertain to our ability to record, process, summarize, and report reliable financial data. We recognize that there are inherent limitations in the effectiveness of any internal control over financial reporting, including the possibility of human error and the circumvention or overriding of internal control. Accordingly, even effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Further, because of changes in conditions, the effectiveness of internal control over financial reporting may vary over time.

Our Board of Directors, acting through its Audit Committee, is responsible for the oversight of our accounting policies, financial reporting, and internal control. The Audit Committee of our Board of Directors is comprised of outside directors who are independent of management. The independent registered public accounting firm and our internal auditors have full and unlimited access to the Audit Committee, with or without management, to discuss the adequacy of internal control over financial reporting, and any other matters which they believe should be brought to the attention of the Audit Committee.

We have issued a report of our assessment of internal control over financial reporting, and our independent registered public accounting firm has issued an attestation report on our internal control over financial reporting at December 31, 2022. These reports appear in Item 8 of this report on Form 10-K.

Changes in Internal Control Over Financial Reporting

During the fourth quarter of 2022, we have not identified any changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially effect, our internal control over financial reporting.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

NORFOLK SOUTHERN CORPORATION AND SUBSIDIARIES

Item 10. Directors, Executive Officers and Corporate Governance

In accordance with General Instruction G(3), information called for by Part III, Item 10, is incorporated herein by reference from the information appearing under the caption “Election of the 13 Directors Named in the Proxy Statement for a One-Year Term,” under the caption “Delinquent Section 16(a) Reports,” under the caption “Committees of the Board,” under the caption “Shareholder Recommendations and Nominations,” and under the caption “The Thoroughbred Code of Ethics” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which definitive Proxy Statement will be filed electronically with the SEC pursuant to Regulation 14A. The information regarding executive officers called for by Item 401 of Regulation S-K is included in Part I hereof beginning under “Information about our Executive Officers.”

Item 11. Executive Compensation

In accordance with General Instruction G(3), information called for by Part III, Item 11, is incorporated herein by reference from the information:

- under the caption “Compensation of Directors;”
- under the caption “Compensation Discussion and Analysis,” the information appearing in the “Summary Compensation Table” and the “2022 Grants of Plan-Based Awards” table, including the narrative to such tables, the “Outstanding Equity Awards at Fiscal Year-End 2022” and “Option Exercises and Stock Vested in 2022” tables, and the tabular and narrative information appearing under the subcaptions “Retirement Benefits,” “Deferred Compensation,” and “Potential Payments Upon a Change in Control or Other Termination of Employment;” and,
- under the captions “Compensation Committee Interlocks and Insider Participation,” “Compensation Policy Risk Assessment,” and “Compensation Committee Report;”

in each case included in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which definitive Proxy Statement will be filed electronically with the SEC pursuant to Regulation 14A.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

In accordance with General Instruction G(3), information on security ownership of certain beneficial owners and management called for by Part III, Item 12, is incorporated herein by reference from the information appearing under the caption “Beneficial Ownership of Stock” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which definitive Proxy Statement will be filed electronically with the SEC pursuant to Regulation 14A.

Equity Compensation Plan Information (at December 31, 2022)

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 ⁽¹⁾
	(a)	(b)	(c)
Equity compensation plans approved by securities holders ⁽²⁾	1,476,081 ⁽³⁾	\$ 143.28 ⁽⁵⁾	8,238,993
Equity compensation plans not approved by securities holders	150,015 ⁽⁴⁾	92.72	436,402 ⁽⁶⁾
Total	1,626,096		8,675,395

⁽¹⁾ Excludes securities reflected in column (a).

⁽²⁾ LTIP.

⁽³⁾ Includes options, RSUs and PSUs granted under LTIP that will be settled in shares of Common Stock.

⁽⁴⁾ TSOP.

⁽⁵⁾ Calculated without regard to 746,094 outstanding RSUs and PSUs at December 31, 2022.

⁽⁶⁾ Reflects shares remaining available for grant under TSOP.

Norfolk Southern Corporation Long-Term Incentive Plan

Established on June 28, 1983, and approved by our stockholders at their Annual Meeting held on May 10, 1984, LTIP was adopted to promote the success of our company by providing an opportunity for non-employee Directors, officers, and other key employees to acquire a proprietary interest in Norfolk Southern Corporation (the Corporation). The Board of Directors amended LTIP on January 23, 2015, which amendment was approved by shareholders on May 14, 2015, to include the reservation for issuance of an additional 8,000,000 shares of authorized but unissued Common Stock.

The amended LTIP adopted a fungible share reserve ratio so that, for awards granted after May 13, 2010, the number of shares remaining for issuance under the amended LTIP will be reduced (i) by 1 for each award granted as an option or stock-settled SAR, or (ii) by 1.61 for an award made in the form other than an option or stock-settled SAR. Any shares of Common Stock subject to options, PSUs, restricted shares, or RSUs which are not issued as Common Stock will again be available for award under LTIP after the expiration or forfeiture of an award.

Non-employee Directors, officers, and other key employees residing in the U.S. or Canada are eligible for selection to receive LTIP awards. Under LTIP, the Committee, or the Corporation's chief executive officer to the extent the Committee delegates award-making authority pursuant to LTIP, may grant incentive stock options, nonqualified stock options, SARs, RSUs, restricted shares, PSUs and performance shares. In addition, dividend equivalent payments may be awarded for options, RSUs and PSUs. Awards under LTIP may be made subject to forfeiture under certain circumstances and the Committee may establish such other terms and conditions for the awards as provided in LTIP.

The option price is at least the higher of (i) the average of the high and low prices at which Common Stock is traded on the date of grant, or (ii) the closing price of Common Stock on the date of the grant. All options are subject to a vesting period of at least one year, and the term of the option will not exceed ten years. LTIP specifically prohibits option repricing without stockholder approval, except that adjustments may be made in the event of changes in our capital structure or Common Stock.

PSUs entitle a recipient to receive performance-based compensation at the end of a three-year cycle based on our performance during that period. For the 2022 PSU awards, corporate performance will be based directly on return on average capital invested, with total return to stockholders serving as a modifier, and will be settled in shares of Common Stock.

RSUs are payable in cash or in shares of Common Stock at the end of a restriction period. During the restriction period, the holder of the RSUs has no beneficial ownership interest in the Common Stock represented by the RSUs and has no right to vote the shares represented by the units or to receive dividends (except for dividend equivalent payment rights that may be awarded with respect to the RSUs). The Committee at its discretion may waive the restriction period, but settlement of any RSUs will occur on the same settlement date as would have applied absent a waiver of restrictions, if no performance goals were imposed. RSUs will be settled in shares of Common Stock.

Norfolk Southern Corporation Thoroughbred Stock Option Plan

Our Board of Directors adopted TSOP on January 26, 1999, to promote the success of our company by providing an opportunity for management employees to acquire a proprietary interest in our company and thereby to provide an additional incentive to management employees to devote their maximum efforts and skills to the advancement, betterment, and prosperity of our company and our stockholders. Under TSOP there were 6,000,000 shares of authorized but unissued Common Stock reserved for issuance. TSOP has not been and is not required to have been approved by our stockholders.

Active full-time management employees residing in the U.S. or Canada are eligible for selection to receive TSOP awards. Under TSOP, the Committee, or the Corporation's chief executive officer to the extent the Committee delegates award-making authority pursuant to TSOP, may grant nonqualified stock options subject to such terms and conditions as provided in TSOP.

The option price may not be less than the average of the high and low prices at which Common Stock is traded on the date of the grant. All options are subject to a vesting period of at least one year, and the term of the option will not exceed ten years. TSOP specifically prohibits repricing without stockholder approval, except for capital adjustments.

Norfolk Southern Corporation Directors' Restricted Stock Plan

The Plan was adopted on January 1, 1994, and was designed to increase ownership of Common Stock by our non-employee Directors so as to further align their ownership interest in our company with that of our stockholders. The Plan has not been and is not required to have been approved by our stockholders.

Effective January 23, 2015, the Board amended the Plan to provide that no additional awards will be made under the Plan. Prior to that amendment, only non-employee Directors who are not and never have been employees of our company were eligible to participate in the Plan. Upon becoming a Director, each eligible Director received a one-time grant of 3,000 restricted shares of Common Stock. No additional shares may be granted under the Plan. No individual member of the Board exercised discretion concerning the eligibility of any Director or the number of shares granted.

The restriction period applicable to restricted shares granted under the Plan begins on the date of the grant and ends on the earlier of the recipient's death or the day after the recipient ceases to be a Director by reason of disability or retirement. During the restriction period, shares may not be sold, pledged, or otherwise encumbered. Directors forfeit the restricted shares if they cease to serve as a Director of our company for reasons other than their disability, retirement, or death.

Item 13. Certain Relationships and Related Transactions, and Director Independence

In accordance with General Instruction G(3), information called for by Part III, Item 13, is incorporated herein by reference from the information appearing under the caption "Related Persons Transactions" and under the caption "Director Independence" in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which definitive Proxy Statement will be filed electronically with the SEC pursuant to Regulation 14A.

Item 14. Principal Accountant Fees and Services

Our independent registered public accounting firm is KPMG LLP, Atlanta, GA, Auditor Firm ID: 185.

In accordance with General Instruction G(3), information called for by Part III, Item 14, is incorporated herein by reference from the information appearing under the caption "Ratification of Appointment of Independent Registered Public Accounting Firm" in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which definitive Proxy Statement will be filed electronically with the SEC pursuant to Regulation 14A.

PART IV

NORFOLK SOUTHERN CORPORATION AND SUBSIDIARIES

Item 15. Exhibits and Financial Statement Schedule

		Page
(A)	The following documents are filed as part of this report:	
	1. <u>Index to Financial Statements</u>	
	<u>Report of Management</u>	K34
	<u>Reports of Independent Registered Public Accounting Firm</u>	K35
	<u>Consolidated Statements of Income, Years ended December 31, 2022, 2021, and 2020</u>	K39
	<u>Consolidated Statements of Comprehensive Income, Years ended December 31, 2022, 2021, and 2020</u>	K40
	<u>Consolidated Balance Sheets at December 31, 2022 and 2021</u>	K41
	<u>Consolidated Statements of Cash Flows, Years ended December 31, 2022, 2021, and 2020</u>	K42
	<u>Consolidated Statements of Changes in Stockholders' Equity, Years ended December 31, 2022, 2021, and 2020</u>	K43
	<u>Notes to Consolidated Financial Statements</u>	K44
	2. Financial Statement Schedule:	
	The following consolidated financial statement schedule should be read in connection with the consolidated financial statements:	
	Index to Consolidated Financial Statement Schedule	
	<u>Schedule II – Valuation and Qualifying Accounts</u>	K93
	Schedules other than the one listed above are omitted either because they are not required or are inapplicable, or because the information is included in the consolidated financial statements or related notes.	
	3. Exhibits	
Exhibit Number	Description	
2.1	<u>Distribution Agreement, dated as of July 26, 2004, by and among CSX Corporation, CSX Transportation, Inc., CSX Rail Holding Corporation, CSX Northeast Holdings Corporation, Norfolk Southern Corporation, Norfolk Southern Railway Company, CRR Holdings LLC, Green Acquisition Corp., Conrail Inc., Consolidated Rail Corporation, New York Central Lines LLC, Pennsylvania Lines LLC, NYC Newco, Inc., and PRR Newco, Inc., is incorporated by reference to Exhibit 2.1 to Norfolk Southern Corporation's Form 8-K filed on September 2, 2004. (SEC File No. 001-08339)</u>	
3	Articles of Incorporation and Bylaws –	
(i)(a)	<u>The Restated Articles of Incorporation of Norfolk Southern Corporation are incorporated by reference to Exhibit 3(i) to Norfolk Southern Corporation's 10-K filed on March 5, 2001. (SEC File No. 001-08339)</u>	
(i)(b)	<u>An amendment to the Articles of Incorporation of Norfolk Southern Corporation is incorporated by reference to Exhibit 3(i) to Norfolk Southern Corporation's Form 8-K filed on May 18, 2010. (SEC File No. 001-08339)</u>	
(i)(c)	<u>An amendment to the Articles of Incorporation of Norfolk Southern Corporation is incorporated by reference to Exhibit 3(i) to Norfolk Southern Corporation's Form 10-Q filed on July 29, 2020. (SEC File No. 001-08339)</u>	
(ii)	<u>The Bylaws of Norfolk Southern Corporation, as amended January 25, 2022, are incorporated by reference to Exhibit 3(ii) to Norfolk Southern Corporation's Form 8-K filed on January 26, 2022. (SEC File No. 001-08339)</u>	

- 4 Instruments Defining the Rights of Security Holders, Including Indentures:
- (a) Indenture, dated as of January 15, 1991, from Norfolk Southern Corporation to First Trust of New York, National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Registration Statement on Form S-3 (No. 33-38595).
 - (b) First Supplemental Indenture, dated May 19, 1997, between Norfolk Southern Corporation and First Trust of New York, National Association, as Trustee, related to the issuance of notes in the principal amount of \$4.3 billion, is incorporated by reference to Exhibit 1.1(d) to Norfolk Southern Corporation's Form 8-K filed on May 21, 1997. (SEC File No. 001-08339)
 - (c) Fourth Supplemental Indenture, dated as of February 6, 2001, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$1 billion, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on February 7, 2001. (SEC File No. 001-08339)
 - (d) Indenture, dated August 27, 2004, among PRR Newco, Inc., as Issuer, and Norfolk Southern Railway Company, as Guarantor, and The Bank of New York, as Trustee, is incorporated by reference to Exhibit 4(1) to Norfolk Southern Corporation's Form 10-Q filed on October 28, 2004. (SEC File No. 001-08339)
 - (e) First Supplemental Indenture, dated August 27, 2004, among PRR Newco, Inc., as Issuer, and Norfolk Southern Railway Company, as Guarantor, and The Bank of New York, as Trustee, related to the issuance of notes in the principal amount of approximately \$451.8 million, is incorporated by reference to Exhibit 4(m) to Norfolk Southern Corporation's Form 10-Q filed on October 28, 2004. (SEC File No. 001-08339)
 - (f) Ninth Supplemental Indenture, dated as of March 11, 2005, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$300 million, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on March 15, 2005. (SEC File No. 001-08339)
 - (g) Tenth Supplemental Indenture, dated as of May 17, 2005, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$366.6 million, is incorporated by reference to Exhibit 99.1 to Norfolk Southern Corporation's Form 8-K filed on May 18, 2005. (SEC File No. 001-08339)
 - (h) Eleventh Supplemental Indenture, dated as of May 17, 2005, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$350 million, is incorporated by reference to Exhibit 99.2 to Norfolk Southern Corporation's Form 8-K filed on May 18, 2005. (SEC File No. 001-08339)
 - (i) Twelfth Supplemental Indenture, dated as of August 26, 2010, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$250 million, is incorporated by reference to Exhibit 4.2 to Norfolk Southern Corporation's Form 8-K filed on August 26, 2010. (SEC File No. 001-08339)
 - (j) Indenture, dated as of June 1, 2009, between Norfolk Southern Corporation and U.S. Bank Trust National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on June 1, 2009. (SEC File No. 001-08339)
 - (k) Second Supplemental Indenture, dated as of May 23, 2011, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$400 million, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on May 23, 2011. (SEC File No. 001-08339)
 - (l) Indenture, dated as of September 14, 2011, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$595,504,000, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on September 15, 2011. (SEC File No. 001-08339)
 - (m) Third Supplemental Indenture, dated as of September 14, 2011, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$4,492,000, is incorporated by reference to Exhibit 4.2 to Norfolk Southern Corporation's Form 8-K filed on September 15, 2011. (SEC File No. 001-08339)

- (n) Fourth Supplemental Indenture, dated as of November 17, 2011, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of two series of notes, one in the principal amount of \$500 million and one in the principal amount of \$100 million, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on November 17, 2011. (SEC File No. 001-08339)
- (o) Indenture, dated as of March 15, 2012, between the Registrant and U.S. Bank Trust National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on March 15, 2012. (SEC File No. 001-08339)
- (p) Indenture, dated as of August 20, 2012, between the Registrant and U.S. Bank Trust National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on August 21, 2012. (SEC File No. 001-08339)
- (q) Second Supplemental Indenture, dated as of September 7, 2012, between the Registrant and U.S. Bank Trust National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on September 7, 2012. (SEC File No. 001-08339)
- (r) Third Supplemental Indenture, dated as of August 13, 2013, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$500,000,000, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on August 13, 2013. (SEC File No. 001-08339)
- (s) Fourth Supplemental Indenture, dated as of November 21, 2013, between the Registrant and U.S. Bank Trust National Association, as Trustee, related to the issuance of notes in the principal amount of \$400,000,000, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on November 21, 2013. (SEC File No. 001-08339)
- (t) Indenture, dated as of June 2, 2015, between Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on June 2, 2015. (SEC File No. 001-08339)
- (u) First Supplemental Indenture, dated as of June 2, 2015, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.2 to Norfolk Southern Corporation's Form 8-K filed on June 2, 2015. (SEC File No. 001-08339)
- (v) Second Supplemental Indenture, dated as of November 3, 2015, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on November 3, 2015. (SEC File No. 001-08339)
- (w) Third Supplemental Indenture, dated as of June 3, 2016, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed on June 3, 2016. (SEC File No. 001-08339)
- (x) Fourth Supplemental Indenture, dated as of May 31, 2017, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to the Corporation's Form 8-K filed May 31, 2017. (SEC File No. 001-08339)
- (y) Indenture, dated as of August 15, 2017, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference herein to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed August 15, 2017. (SEC File No. 001-08339)
- (z) Indenture, dated as of February 28, 2018 between the Registrant and U.S. Bank National Association, as Trustee. The Indenture is incorporated by reference herein to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed February 28, 2018. (SEC File No. 001-08339)
- (aa) First Supplemental Indenture, dated as of February 28, 2018, between the Registrant and U.S. Bank National Association, as Trustee. The Indenture is incorporated by reference herein to Exhibit 4.2 to Norfolk Southern Corporation's Form 8-K filed February 28, 2018. (SEC File No. 001-08339)
- (bb) Second Supplemental Indenture, dated as of August 2, 2018, between the Registrant and U.S. Bank National Association, as Trustee. The Indenture is incorporated by reference herein to Exhibit 4.1 to Norfolk Southern Corporation's Form 8-K filed August 2, 2018. (SEC File No. 001-08339)
- (cc) Third Supplemental Indenture, dated as of May 8, 2019, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on May 8, 2019 (SEC File No. 001-08339).

- (dd) Fourth Supplemental Indenture, dated as of November 4, 2019, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on November 4, 2019. (SEC File No. 001-08339)
- (ee) Description of the Registrant's Common Stock Registered Under Section 12 of the Securities Exchange Act of 1934, is incorporated by reference to Exhibit 4(hh) to Norfolk Southern Corporation's Form 10-K filed on February 6, 2020. (SEC File No. 001-08339)
- (ff) Fifth Supplemental Indenture, dated as of May 11, 2020, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on May 11, 2020. (SEC File No. 001-08339)
- (gg) Indenture dated as of May 15, 2020, between the Registrant and U.S. Bank National Association, as Trustee is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on May 15, 2020. (SEC File No. 001-08339)
- (hh) Sixth Supplemental Indenture, dated as of May 12, 2021, between the Registrant and U.S. Bank National Association, as Trustee, is incorporated by reference to Exhibit 4.2 to the Registrant's Form 8-K filed on May 12, 2021. (SEC File No. 001-08339)
- (ii) Seventh Supplemental Indenture, dated as of August 25, 2021, between the Registrant and U.S. Bank National Association, as trustee, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K filed on August 25, 2021. (SEC File No. 001-08339)
- (jj) Eighth Supplemental Indenture, dated as of February 25, 2022, between the Registrant and U.S. Bank Trust Company, National Association (as successor to U.S. Bank National Association), as trustee, is incorporated by reference to Exhibit 4.1 of the Registrant's Form 8-K filed on February 25, 2022.
- (kk) Ninth Supplemental Indenture, dated June 13, 2022, between the Registrant and U.S. Bank Trust Company, National Association (as successor to U.S. Bank National Association), as trustee, is incorporated by reference to Exhibit 4.1 of the Registrant's Form 8-K filed on June 15, 2022.

In accordance with Item 601(b)(4)(iii) of Regulation S-K, copies of other instruments of Norfolk Southern Corporation and its subsidiaries with respect to the rights of holders of long-term debt are not filed herewith, or incorporated by reference, but will be furnished to the Commission upon request.

10 Material Contracts -

- (a) The Transaction Agreement, dated as of June 10, 1997, by and among CSX and CSX Transportation, Inc., Registrant, Norfolk Southern Railway Company, Conrail Inc., Consolidated Rail Corporation, and CRR Holdings LLC, with certain schedules thereto, previously filed, is incorporated by reference to Exhibit 10(a) to Norfolk Southern Corporation's Form 10-K filed on February 24, 2003. (SEC File No. 001-08339)
- (b) Amendment No. 1 dated as of August 22, 1998, to the Transaction Agreement, dated as of June 10, 1997, by and among CSX Corporation, CSX Transportation, Inc., Norfolk Southern Corporation, Norfolk Southern Railway Company, Conrail, Inc., Consolidated Rail Corporation, and CRR Holdings LLC, is incorporated by reference from Exhibit 10.1 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (c) Amendment No. 2 dated as of June 1, 1999, to the Transaction Agreement, dated June 10, 1997, by and among CSX Corporation, CSX Transportation, Inc., Norfolk Southern Corporation, Norfolk Southern Railway Company, Conrail, Inc., Consolidated Rail Corporation, and CRR Holdings LLC, is incorporated by reference from Exhibit 10.2 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (d) Amendment No. 3 dated as of June 1, 1999, and executed in April 2004, to the Transaction Agreement, dated June 10, 1997, by and among CSX Corporation, CSX Transportation, Inc., Norfolk Southern Corporation, Norfolk Southern Railway Company, Conrail, Inc., Consolidated Rail Corporation, and CRR Holdings LLC, is incorporated by reference from Exhibit 10(dd) to Norfolk Southern Corporation's Form 10-Q filed on July 30, 2004. (SEC File No. 001-08339)

- (e) Amendment No. 5 to the Transaction Agreement, dated as of August 27, 2004, by and among CSX Corporation, CSX Transportation, Inc., Norfolk Southern Corporation, Norfolk Southern Railway Company, Conrail, Inc., Consolidated Rail Corporation, and CRR Holdings LLC, is incorporated by reference to Exhibit 10.1 to Norfolk Southern Corporation's Form 8-K filed on September 2, 2004. (SEC File No. 001-08339)
- (f) Amendment No. 6 dated as of April 1, 2007, to the Transaction Agreement, dated June 10, 1997, by and among CSX Corporation, CSX Transportation, Inc., Norfolk Southern Railway Company, Conrail, Inc., Consolidated Rail Corporation, and CRR Holdings LLC, is incorporated by reference to Exhibit 10.5 to Norfolk Southern Corporation's Form 10-Q filed on July 27, 2007. (SEC File No. 001-08339)
- (g) Shared Assets Area Operating Agreement for North Jersey, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibit thereto, is incorporated by reference from Exhibit 10.4 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (h) Shared Assets Area Operating Agreement for Detroit, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibit thereto, is incorporated by reference from Exhibit 10.6 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (i) Shared Assets Area Operating Agreement for South Jersey/Philadelphia, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibit thereto, is incorporated by reference from Exhibit 10.5 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (j) Amendment No. 1, dated as of June 1, 2000, to the Shared Assets Area Operating Agreements for North Jersey, South Jersey/Philadelphia, and Detroit, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibits thereto, is incorporated by reference to Exhibit 10(h) to Norfolk Southern Corporation's Form 10-K filed on March 5, 2001. (SEC File No. 001-08339)
- (k) Amendment No. 2, dated as of January 1, 2001, to the Shared Assets Area Operating Agreements for North Jersey, South Jersey/Philadelphia, and Detroit, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibits thereto, is incorporated by reference to Exhibit 10(j) to Norfolk Southern Corporation's Form 10-K filed on February 21, 2002. (SEC File No. 001-08339)
- (l) Amendment No. 3, dated as of June 1, 2001, and executed in May of 2002, to the Shared Assets Area Operating Agreements for North Jersey, South Jersey/Philadelphia, and Detroit, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibits thereto, is incorporated by reference to Exhibit 10(k) to Norfolk Southern Corporation's Form 10-K filed on February 24, 2003. (SEC File No. 001-08339)
- (m) Amendment No. 4, dated as of June 1, 2005, and executed in late June 2005, to the Shared Assets Area Operating Agreements for North Jersey, South Jersey/Philadelphia, and Detroit, dated as of June 1, 1999, by and among Consolidated Rail Corporation, CSX Transportation, Inc., and Norfolk Southern Railway Company, with exhibits thereto, is incorporated by reference to Exhibit 99 to Norfolk Southern Corporation's Form 8-K filed on July 1, 2005. (SEC File No. 001-08339)
- (n) Monongahela Usage Agreement, dated as of June 1, 1999, by and among CSX Transportation, Inc., Norfolk Southern Railway Company, Pennsylvania Lines LLC, and New York Central Lines LLC, with exhibit thereto, is incorporated by reference from -Exhibit 10.7 to Norfolk Southern Corporation's Form 10-Q filed on August 11, 1999. (SEC File No. 001-08339)
- (o) The Agreement, entered into as of July 27, 1999, between North Carolina Railroad Company and Norfolk Southern Railway Company, is incorporated by reference from Exhibit 10(i) to Norfolk Southern Corporation's Form 10-K filed on March 6, 2000. (SEC File No. 001-08339)
- (p) Second Amendment, dated December 28, 2009, to the Master Agreement dated July 27, 1999, by and between North Carolina Railroad Company and Norfolk Southern Railway Company, is incorporated by reference to Exhibit 10(q) to Norfolk Southern Corporation's Form 10-K filed on February 17, 2010 (Exhibits, annexes and schedules omitted. The Registrant will furnish supplementary copies of such materials to the SEC upon request). (SEC File No. 001-08339)

- (q) The Supplementary Agreement, entered into as of January 1, 1987, between the Trustees of the Cincinnati Southern Railway and The Cincinnati, New Orleans and Texas Pacific Railway Company (the latter a wholly owned subsidiary of Norfolk Southern Railway Company) – extending and amending a Lease, dated as of October 11, 1881 – is incorporated by reference to Exhibit 10(k) to Norfolk Southern Corporation’s Form 10-K filed on March 5, 2001. (SEC File No. 001-08339)
- (r)* Norfolk Southern Corporation Executive Management Incentive Plan, as approved by shareholders May 14, 2015, and as amended effective March 27, 2018, and November 17, 2020, is incorporated by reference to Exhibit 10.1 to Norfolk Southern Corporation’s Form 8-K filed on January 8, 2021. (SEC File No. 001-08339)
- (s)* The Norfolk Southern Corporation Directors’ Restricted Stock Plan, adopted January 1, 1994, and amended and restated effective as of January 23, 2015, is incorporated by reference to Exhibit 10.1 to Norfolk Southern Corporation’s Form 10-Q filed on October 25, 2017. (SEC File No. 001-08339)
- (t)* Supplemental Benefit Plan of Norfolk Southern Corporation and Participating Subsidiary Companies, adopted June 1, 1982, as amended and restated effective as of June 26, 2015, is incorporated by reference to Exhibit 10.2 to Norfolk Southern Corporation’s Form 10-Q filed on October 25, 2017. (SEC File No. 001-08339)
- (u)* The Norfolk Southern Corporation Directors’ Charitable Award Program, as amended effective July 2007, is incorporated by reference to Exhibit 10.6 to Norfolk Southern Corporation’s Form 10-Q filed on July 27, 2007. (SEC File No. 001-08339)
- (v) The Norfolk Southern Corporation Thoroughbred Stock Option Plan, as amended effective July 22, 2013, is incorporated by reference to Exhibit 10.2 to Norfolk Southern Corporation’s Form 10-Q filed on July 24, 2013. (SEC File No. 001-08339)
- (w)* The Norfolk Southern Corporation Executive Life Insurance Plan, as amended and restated effective December 1, 2018, is incorporated by reference to Exhibit 10(y) to Norfolk Southern Corporation’s Form 10-K filed on February 8, 2019. (SEC File No. 001-08339)
- (x)* The Norfolk Southern Corporation Long-Term Incentive Plan, as approved by shareholders May 14, 2015, and as amended July 29, 2016, November 29, 2016, November 28, 2017, November 27, 2018, and November 19, 2019, is incorporated by referenced to Exhibit 10(aa) to Norfolk Southern Corporation’s Form 10-K filed on February 6, 2020. (SEC File No. 001-08339)
- (y) Amended and Restated Transfer and Administration Agreement dated as of May 28, 2021 is incorporated by reference to Exhibit 10.1 on Norfolk Southern Corporation’s Form 8-K filed on May 28, 2021. (SEC File No. 001-08339)
- (z) Amendment No. 1 dated as of May 27, 2022, to the Amended and Restated Transfer and Administration Agreement, dated as of May 28, 2021 is incorporated by reference to Exhibit 10.1 on Norfolk Southern Corporation’s Form 10-Q filed on October 26, 2022. (SEC File No. 001-08339)
- (aa) Amendment No. 2 dated as of June 30, 2022, to the Amended and Restated Transfer and Administration Agreement, dated as of May 28, 2021 is incorporated by reference to Exhibit 10.2 on Norfolk Southern Corporation’s Form 10-Q filed on October 26, 2022. (SEC File No. 001-08339)
- (bb) Asset Purchase and Sale Agreement dated November 21, 2022, by and among the Registrant as purchaser, the Cincinnati, New Orleans and Texas Pacific Railway Company, and the Board of Trustees of the Cincinnati Southern Railway as seller is incorporated by reference to Exhibit 2.1 on Norfolk Southern Corporation’s Form 8-K filed on November 21, 2022. (SEC File No. 001-08339)
- (cc)* Directors’ Deferred Fee Plan of Norfolk Southern Corporation, adopted June 1, 1982 and as amended and restated effective December 1, 2019, is incorporated by referenced to Exhibit 10(xx) to Norfolk Southern Corporation’s Form 10-K filed on February 6, 2020. (SEC File No. 001-08339)
- (dd)* Norfolk Southern Corporation Executives’ Deferred Compensation Plan, as amended and restated effective January 1, 2019, is incorporated by reference to Exhibit 10(ww) to Norfolk Southern Corporation’s Form 10-K filed on February 8, 2019. (SEC File No. 001-08339)

- (ee)* Form of Norfolk Southern Corporation Long-Term Incentive Plan, Award Agreement for Outside Directors for restricted stock units and deferral election form as approved by the Human Capital Management and Compensation Committee on November 18, 2021, is incorporated by reference to Exhibit 10(cc) to Norfolk Southern Corporation's Form 10-K filed on February 4, 2022. (SEC File No. 001-08339)
- (ff)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Award Agreement for non-qualified stock options approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (gg)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Award Agreement for restricted stock units approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (hh)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Award Agreement for performance share units approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (ii)* Form of Change in Control Agreement between Norfolk Southern Corporation and executive officers who entered into a change in control agreement after 2015 is incorporated by reference to Exhibit 10.2 to Norfolk Southern Corporation's Form 10-Q filed on July 29, 2020. (SEC File No. 001-08339)
- (jj) Credit Agreement dated as of March 27, 2020 establishing a 5 year, \$800 million, unsecured revolving credit facility of the Registrant, is incorporated by reference to Exhibit 10.1 to Norfolk Southern Corporation's Form 8-K filed on March 30, 2020. (SEC File No. 001-08339)
- (kk)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Off-Cycle Award Agreement for Non-Qualified Stock Options as approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (ll)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Off-Cycle Award Agreement for Performance Share Units as approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (mm)*,** Form of Norfolk Southern Corporation Long-Term Incentive Plan, Off-Cycle Award Agreement for Restricted Stock Units as approved by the Human Capital Management and Compensation Committee on January 23, 2023.
- (nn)* Offer Letter for Mark R. George, dated August 26, 2019, is incorporated by reference to Exhibit 99.1 to Norfolk Southern Corporation's Form 8-K filed on August 28, 2019. (SEC File No. 001-08339)
- (oo)* Norfolk Southern Corporation Long-Term Incentive Plan Inducement Award Agreement for Performance-Based Restricted Stock Units is incorporated by reference to Exhibit 99.2 to Norfolk Southern Corporation's Form 8-K filed on August 28, 2019. (SEC File No. 001-08339)
- (pp)* Norfolk Southern Corporation Long-Term Incentive Plan Inducement Award Agreement for Restricted Stock Units is incorporated by reference to Exhibit 99.3 to Norfolk Southern Corporation's Form 8-K filed on August 28, 2019. (SEC File No. 001-08339)
- (qq)* Norfolk Southern Corporation Long-Term Incentive Plan Inducement Award Agreement for Non-Qualified Stock Options is incorporated by reference to Exhibit 99.4 to Norfolk Southern Corporation's Form 8-K filed on August 28, 2019. (SEC File No. 001-08339)
- (rr) A Lease Agreement, dated March 1, 2019, between NSRC and BA Leasing BSC, LLC. This Agreement is incorporated by reference herein to Exhibit 10.2 to Norfolk Southern Corporation's Form 8-K filed March 5, 2019. (See SEC File No. 001-08339)
- (ss) A Participation Agreement, dated March 1, 2019, between NSRC, BA Leasing BSC, LLC, Bank of America, N.A. as Administrative Agent, and each of the Rent Assignees listed on Schedule II thereto. This Agreement is incorporated by reference herein to Exhibit 10.3 to Norfolk Southern Corporation's Form 8-K filed March 5, 2019. (See SEC File No. 001-08339)
- (tt) Guaranty of NSRC's obligations under the Participation Agreement, Construction Agency Agreement, Lease Agreement and related documents by Norfolk Southern Corporation. This Agreement is incorporated by reference herein to Exhibit 10.4 to Norfolk Southern Corporation's Form 8-K filed March 5, 2019. (See SEC File No. 001-08339)

- (uu)** Consent and First Omnibus Amendment dated May 14, 2021 between NSRC, BA Leasing, BSC, LLC, Bank of America, N.A as Administrative Agent, and each of the Rent Assignees (the Registrant will furnish supplementally to the Securities and Exchange Commission upon request, a copy of any omitted exhibit or schedule).
- (vv)** Consent and Second Omnibus Amendment dated September 10, 2021 between NSRC, BA Leasing, BSC, LLC, Bank of America, N.A as Administrative Agent, and each of the Rent Assignees (the Registrant will furnish supplementally to the Securities and Exchange Commission upon request, a copy of any omitted exhibit or schedule).
- (ww)* Norfolk Southern Executive Severance Plan as adopted on May 14, 2020, and as amended July 28, 2020, and November 17, 2022, is incorporated by reference herein to Exhibit 10.1 to Norfolk Southern Corporation's Form 8-K filed on November 21, 2022. (SEC File No. 001-08339)
- 21** Subsidiaries of the Registrant.
- 23** Consent of Independent Registered Public Accounting Firm.
- 31-A** Rule 13a-14(a)/15d-014(a) CEO Certification.
- 31-B** Rule 13a-14(a)/15d-014(a) CFO Certification.
- 32** Section 1350 Certifications.
- 101** The following financial information from Norfolk Southern Corporation's Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Inline Extensible Business Reporting Language (iXBRL) includes: (i) the Consolidated Statements of Income for each of the years ended December 31, 2022, 2021, and 2020; (ii) the Consolidated Statements of Comprehensive Income for each of the years ended December 31, 2022, 2021, and 2020; (iii) the Consolidated Balance Sheets at December 31, 2022 and 2021; (iv) the Consolidated Statements of Cash Flows for each of the years ended December 31, 2022, 2021, and 2020; (v) the Consolidated Statements of Changes in Stockholders' Equity for each of the years ended December 31, 2022, 2021, and 2020; and (vi) the Notes to Consolidated Financial Statements.

* *Management contract or compensatory arrangement.*

** *Filed herewith.*

- (B) Exhibits.
The Exhibits required by Item 601 of Regulation S-K as listed in Item 15(A)3 are filed herewith or incorporated by reference.
- (C) Financial Statement Schedules.
Financial statement schedules and separate financial statements specified by this Item are included in Item 15(A)2 or are otherwise not required or are not applicable.

Exhibits 23, 31, and 32 are included in copies assembled for public dissemination. All exhibits are included in the 2022 Form 10-K posted on our website at www.norfolksouthern.com under "Invest in NS" and "SEC Filings" or you may request copies by writing to:

**Office of Corporate Secretary
Norfolk Southern Corporation
650 West Peachtree Street NW
Atlanta, Georgia 30308-1925**

Item 16. Form 10-K Summary

Not applicable.

POWER OF ATTORNEY

Each person whose signature appears on the next page under SIGNATURES hereby authorizes Nabanita C. Nag and Mark R. George, or any one of them, to execute in the name of each such person, and to file, any amendments to this report, and hereby appoints Nabanita C. Nag and Mark R. George, or any one of them, as attorneys-in-fact to sign on his or her behalf, individually and in each capacity stated below, and to file, any and all amendments to this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Norfolk Southern Corporation has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 3rd day of February, 2023.

/s/ Alan H. Shaw

By: Alan H. Shaw
(President and Chief Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on this 3rd day of February, 2023, by the following persons on behalf of Norfolk Southern Corporation and in the capacities indicated.

Signature	Title
<u>/s/ Alan H. Shaw</u> (Alan H. Shaw)	President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ Mark R. George</u> (Mark R. George)	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ Claiborne L. Moore</u> (Claiborne L. Moore)	Vice President and Controller (Principal Accounting Officer)
<u>/s/ Amy E. Miles</u> (Amy E. Miles)	Independent Chair and Director
<u>/s/ Thomas D. Bell, Jr.</u> (Thomas D. Bell, Jr.)	Director
<u>/s/ Mitchell E. Daniels, Jr.</u> (Mitchell E. Daniels, Jr.)	Director
<u>/s/ Marcela E. Donadio</u> (Marcela E. Donadio)	Director
<u>/s/ John C. Huffard, Jr.</u> (John C. Huffard, Jr.)	Director
<u>/s/ Christopher T. Jones</u> (Christopher T. Jones)	Director
<u>/s/ Thomas C. Kelleher</u> (Thomas C. Kelleher)	Director
<u>/s/ Steven F. Leer</u> (Steven F. Leer)	Director
<u>/s/ Michael D. Lockhart</u> (Michael D. Lockhart)	Director
<u>/s/ Claude Mongeau</u> (Claude Mongeau)	Director
<u>/s/ Jennifer F. Scanlon</u> (Jennifer F. Scanlon)	Director
<u>/s/ James A. Squires</u> (James A. Squires)	Director
<u>/s/ John R. Thompson</u> (John R. Thompson)	Director

Norfolk Southern Corporation and Subsidiaries
Valuation and Qualifying Accounts
Years ended December 31, 2022, 2021, and 2020
(\$ in millions)

	<u>Beginning Balance</u>	<u>Additions charged to:</u>			<u>Ending Balance</u>
		<u>Expenses</u>	<u>Other Accounts</u>	<u>Deductions</u>	
Year ended December 31, 2022					
Current portion of casualty and other claims included in accounts payable	\$ 166	\$ 43	\$ 88 ⁽²⁾	\$ 127 ⁽³⁾	\$ 170
Casualty and other claims included in other liabilities	170	147 ⁽¹⁾	—	99 ⁽⁴⁾	218
Year ended December 31, 2021					
Current portion of casualty and other claims included in accounts payable	\$ 182	\$ 20	\$ 80 ⁽²⁾	\$ 116 ⁽³⁾	\$ 166
Casualty and other claims included in other liabilities	169	77 ⁽¹⁾	—	76 ⁽⁴⁾	170
Year ended December 31, 2020					
Current portion of casualty and other claims included in accounts payable	\$ 212	\$ 27	\$ 81 ⁽²⁾	\$ 138 ⁽³⁾	\$ 182
Casualty and other claims included in other liabilities	171	80 ⁽¹⁾	—	82 ⁽⁴⁾	169

⁽¹⁾ Includes adjustments for changes in estimates for prior years' claims.

⁽²⁾ Includes revenue refunds and overcharges provided through deductions from operating revenues and transfers from other accounts.

⁽³⁾ Payments and reclassifications to/from accounts payable.

⁽⁴⁾ Payments and reclassifications to/from other liabilities.

