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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2021

OR

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

For the transition period from __________ to ____________

Commission File Number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

Utah	**13-2626465**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1400 Douglas Street, Omaha, Nebraska
(Address of principal executive offices)
68179
(Zip Code)
(402) 544-5000
(Registrant's telephone number, including area code)

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

Title of each Class	Trading Symbol	Name of each exchange on which registered
Common Stock (Par Value $2.50 per share)	**UNP**	**New York Stock Exchange**

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

  ☑Yes ☐ No

- Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

  ☐Yes ☑ No

- Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

  ☑Yes ☐ No

- Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

  ☑Yes ☐ No

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

Large Accelerated Filer	☑	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 accounting firm that prepared or issued its audit report.

☑

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

☐Yes ☑ No

- As of June 30, 2021, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was $142.0 billion.

The number of shares outstanding of the registrant's Common Stock as of January 28, 2022, was 636,898,957.

Table of Contents

Documents Incorporated by Reference – Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 12, 2022, are incorporated by reference into Part III of this report. The registrant's Proxy Statement will be filed with the Securities and Exchange Commission (SEC) within 120 days after the end of the fiscal year that this report relates pursuant to Regulation 14A.

UNION PACIFIC CORPORATION
TABLE OF CONTENTS

February 4, 2022

Fellow Shareholders:

Union Pacific demonstrated again in 2021 that our team is "best in class" as we navigated challenges from the pandemic and numerous operational disruptions. The pandemic continued to impact our daily lives and disrupt supply chains in significant ways. Despite these wide-ranging impacts, the Union Pacific team achieved record financial results. In 2021, we are reporting earnings per share of $9.95, which is a 26% increase versus 2020. Total volumes increased 4% versus 2020, as our economy continued to recover from the pandemic impacts. Operating ratio was a record 57.2%, 270 basis points better than 2020's 59.9% demonstrating continued focus on efficient operations. 2020 results were negatively impacted by a one-time $278 million non-cash impairment charge that reduced earnings per share by $0.31 and increased operating ratio by 140 basis points.

Safety is foundational to everything we do at Union Pacific. 2021 safety results did not meet our expectations. In 2022, we are continuing to engage external experts to help us get back on track to world class industrial safety performance. We are implementing more effective ways to coach, train, and root-cause analyze, all while building a stronger, deeper safety culture. Nothing is more important than making sure every employee returns home safely.

During 2021, we rolled out a new strategic plan we call, "**Serve, Grow, Win, Together.**" The essence of our strateg
defines our path to long-term sustainable growth.

Everything we do starts with **Serve** and the transportation products we provide our customers. Precision Scheduled
a more resilient and agile service product. In 2021, weather, wildfires, supply chain disruptions, and pandemic impa
was down 8% versus 2020, lowering Trip Plan Compliance for both Intermodal and Manifest/Autos 8 points. Beyond
the highway saves fuel, lowers emissions, and reduces highway congestion. We took steps toward our long-term em
our customers eliminate roughly 23 million metric tons of greenhouse gas emissions by choosing rail versus truck.

To support our service product, we continue to make significant investments in our infrastructure. In 2021, we investe
Twin Cities, MN, and West Colton, CA, modernizing 100 locomotives, and hardening our infrastructure. We also inves

These investments also underpin the next tenet of our strategy – **Grow**. We believe we have the best rail franchise in North America. By providing a quality service product, along with the lowest cost structure in the industry, we are well positioned to handle more business for new and existing customers. We see many opportunities to grow, whether by providing more services for our customers or by expanding our reach through new transload facilities or pop-up intermodal terminals. Improving the customer experience is critical and technology plays a key role. Our industry leading practices provide our customers with application programming interfaces (API), with over 50 services launched, we are integrating deeper into our customers' systems and supply chains. And our team is winning in the marketplace! We welcomed new customers in 2021, are onboarding more in 2022, and already setting the stage for a great 2023 with a significant domestic intermodal win.

Successful execution of our plans to "Serve" and "Grow" leads to **Win**. For our shareholders, winning means generating best-in-industry cash returns. In 2021, we paid dividends of $2.8 billion, which included two 10% dividend increases during the year. In addition, we repurchased 33 million Union Pacific shares, decreasing our full-year average share count 3%. Combining dividends and share repurchases, Union Pacific returned $10.1 billion to our shareholders in 2021.

Our definition of "winning" extends to all UP's stakeholders, which is the final piece of our strategy – **Together**. Our comprehensive approach to Environmental Social Governance (ESG) issues, "Building a Sustainable Future 2030", is designed to address the evolving needs of our stakeholders. In 2021, we took major steps on our ESG journey, beginning with the July release of our 2018, 2019, and 2020 EEO-1 reports, providing increased transparency to our workforce demographics. And we continue to report quarterly progress towards our long-term diversity representation goals. Further, in December, we released our initial Climate Action Plan, laying out our plan to achieve our 2030 carbon emission reduction goals, approved in February by the Science Based Targets initiative (SBTi), and our commitment to Net Zero by 2050, the only U.S. rail to do so.

Every year can bring real challenges to our "outdoor factory", although the last two years were unique. In response, the resiliency of the Union Pacific team has been on full display, and our employees have positioned our Company for even greater success in 2022. As we prepare to celebrate our 160th anniversary in 2022, we are focused on customer-centered operational excellence, growing with our customers, and winning together with all our stakeholders. The future is very bright for Union Pacific.

signature1.jpg

Chairman, President, and Chief Executive Officer

DIRECTORS AND SENIOR MANAGEMENT

BOARD OF DIRECTORS

Andrew H. Card, Jr.
Former White House
Chief of Staff
Board Committees: Compensation and Benefits, Corporate Governance and Nominating

William J. DeLaney
Former Chief Executive Officer
Sysco Corporation
Board Committees: Audit, Compensation and Benefits (Chair)

David B. Dillon
Former Chairman and CEO
The Kroger Company
Board Committees: Audit (Chair), Compensation and Benefits

Sheri H. Edison
Former Executive Vice President and
General Counsel Amcor plc
Board Committees: Pending Assignment

Lance M. Fritz
Chairman, President, and
Chief Executive Officer
Union Pacific Corporation and Union Pacific Railroad Company

Deborah C. Hopkins
Former Chief Executive Officer
Citi Ventures and Former
Chief Innovation Officer Citi
Board Committees: Audit, Finance

Jane H. Lute
Strategic Advisor
SICPA, North America
Board Committees: Audit, Corporate Governance and Nominating

Michael R. McCarthy
Chairman – McCarthy Group, LLC
Co-Chairman – Bridges Trust Company
Lead Independent Director
Board Committees: Corporate Governance and Nominating (Chair), Finance

Thomas F. McLarty III
Chairman
McLarty Associates
Board Committees: Finance (Chair), Corporate Governance and Nominating

Jose H. Villarreal
Retired Advisor
Akin, Gump, Strauss, Hauer, & Feld, LLP
Board Committees: Compensation and Benefits, Corporate Governance and Nominating

Christopher J. Williams
Chairman
Siebert Williams Shank & Co.
Board Committees: Audit, Finance

SENIOR MANAGEMENT*

Lance M. Fritz
Chairman, President, and
Chief Executive Officer

Prentiss W. Bolin, Jr.

Rahul Jalali
Senior Vice President – Information Technologies and Chief Information Officer

Michael V. Miller

Craig V. Richardson
Executive Vice President, Chief Legal Officer, and Corporate Secretary

Kenny G. Rocker

Vice President – External Relations

Bryan L. Clark
Vice President – Tax

Eric J. Gehringer
Executive Vice President – Operations

Jennifer L. Hamann
Executive Vice President
and Chief Financial Officer

Vice President and Treasurer

Scott D. Moore
Senior Vice President – Corporate
Relations and
Chief Administrative Officer

Clark J. Ponthier
Senior Vice President – Supply Chain
and Continuous Improvement

Executive Vice President – Marketing
and Sales

Todd M. Rynaski
Vice President and Controller

Elizabeth F. Whited
Executive Vice President – Sustainability and Strategy

*Senior management are elected officers of both Union Pacific Corporation and Union Pacific Railroad Company, except Messrs. Gehringer, Ponthier, and Rocker are elected officers for Union Pacific Railroad Company.

Table of Contents

PART I

Item 1. Business

GENERAL

Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation. One of America's most recognized companies, Union Pacific Railroad Company connects 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain. The Railroad's diversified business mix includes Bulk, Industrial, and Premium. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems, and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient, and environmentally responsible manner.

Union Pacific Corporation was incorporated in Utah in 1969 and maintains its principal executive offices at 1400 Douglas Street, Omaha, NE 68179. The telephone number at that address is (402) 544-5000. The common stock of Union Pacific Corporation is listed on the New York Stock Exchange (NYSE) under the symbol "UNP".

For purposes of this report, unless the context otherwise requires, all references herein to "UPC", "Corporation", "Company", "we", "us", and "our" shall mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which we separately refer to as "UPRR" or the "Railroad".

STRATEGY

The Company's growth strategy focuses on growing customer value through innovative supply chain solutions and aspiring to Serve, Grow, Win – Together.

Serve: Driving operational excellence to create a safer, more reliable and efficient service product. Precision scheduled railroading (PSR) is the foundation for delivering customer-centered operational excellence by:

1. Shifting the focus of operations from moving trains to moving cars.
2. Minimizing car dwell, car classification events, and locomotive power requirements.
3. Utilizing general-purpose trains by blending existing train service.
4. Balancing train movements to improve the utilization of crews and rail assets.

We aim to move cars faster and reduce the number of times each car is touched, resulting in terminal consolidation opportunities, improved asset utilization, and fewer car classifications, which in turn leads to products getting to the market quicker and more reliably. The result is a better customer experience, which enables us to grow our market share.

Grow: By harnessing the potential of the best rail franchise in the industry, we expect to generate growth in three ways – increasing profitable carloads that fit our network and transportation plan; providing more products and services to create value for our customers; and increasing the geographic reach of our franchise through innovative supply chain solutions.

Win: Driving strong financial performance resulting in significant shareholder returns. Execution of our plans to both serve and grow, leads to higher revenues with improved margins and greater cash generation, creating long term enterprise value.

Together: Engaging our four stakeholder groups – Communities, Customers, Employees, and Shareholders. Our comprehensive approach to Environmental Social Governance (ESG) issues, "Building a Sustainable Future 2030," is designed to address the evolving needs of our stakeholders and is built on four areas of concentration – Investing in our Workforce, Driving Sustainable Solutions, Championing Environmental Stewardship, and Strengthening our Communities – to align with our stakeholder groups.

We believe that operational excellence and an engaged workforce with deep market knowledge and strong customer relationships will support best-in-class safety, a customer experience that drives growth, and shareholder returns.

As we work to transform our railroad into the safest, most reliable, and most efficient in North America, our values will continue guiding us. Our passion for performance will help us win; our high ethical standards will lead us to win in a way that supports all of our stakeholders; and our teamwork will make sure we win together.

OPERATIONS

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide revenue by commodity group, we analyze the net financial results of the Railroad as one segment due to the integrated nature of our rail network. Additional information regarding our business and operations, including revenues, financial information and data, and other information regarding environmental matters, is presented in Risk Factors, Item 1A; Legal Proceedings, Item 3; Management’s Discussion and Analysis of Financial Condition and Results of Operations, Item 7; and the Financial Statements and Supplementary Data, Item 8 (which include information regarding revenues, statements of income, and total assets).

Operations – UPRR is a Class I railroad operating in the U.S. We have 32,452 route miles, connecting Pacific Coast a and providing several corridors to key Mexican gateways. We serve the Western two-thirds of the country and mainta and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and imp across the Mexican and Canadian borders. In 2021, we generated freight revenues totaling $20.2 billion from the follow

Bulk – The Company's Bulk shipments consist of grain and grain products, fertilizer, food and refrigerated, and coal and renewables. In 2021, this group generated 33% of our freight revenues. We access most major grain markets, connecting the Midwest and Western U.S. producing areas to export terminals in the Pacific Northwest and Gulf Coast ports as well as Mexico. We also serve significant domestic markets, including grain processors, animal feeders, and ethanol producers in the Midwest and West. Fertilizer movements originate in the Gulf Coast region, Midwest, western U.S., and Canada (through interline access) for delivery to major agricultural users in those areas as well as abroad. The Railroad's network supports the transportation of coal shipments to independent and regulated power companies and industrial facilities throughout the U.S. Through interchange gateways and ports, UPRR's reach extends to eastern U.S. utilities as well as to Mexico and other international destinations. Coal traffic originating in the Powder River Basin (PRB) area of Wyoming is the largest portion of the Railroad's coal business. Renewable shipments for customers committed to sustainability consist primarily of biomass exports and wind turbine components.

Industrial – Our extensive network facilitates the movement of numerous commodities between thousands of origin and destination points throughout North America. The Industrial group consists of several categories, including construction, industrial chemicals, plastics, forest products, specialized products (primarily waste, salt, and roofing), metals and ores, petroleum, liquid petroleum gases (LPG), soda ash, and sand. Transportation of these products accounted for 36% of our freight revenues in 2021. Commercial, residential, and governmental infrastructure investments drive shipments of steel, aggregates, cement, and wood products. Industrial and light manufacturing plants receive steel, nonferrous materials, minerals, and other raw materials.

The industrial chemicals market consists of a vast number of chemical compounds that support the manufacturing of more complex chemicals. Plastics shipments support automotive, housing, and the durable and disposable consumer goods markets. Forest product shipments include lumber and paper commodities. Lumber shipments originate primarily in the Pacific Northwest or western Canada and move throughout the U.S. for use in new home construction and repairs and remodeling. Paper shipments primarily support packaging needs. Oil and gas drilling generates demand for raw steel, finished pipe, stone, and drilling fluid commodities. The Company's petroleum and LPG shipments are primarily impacted by refinery utilization rates, regional crude pricing differentials, pipeline capacity, and the use of asphalt for road programs. Soda ash originates in southwestern Wyoming and California, destined for chemical and glass producing markets in North America and abroad.

Premium – In 2021, Premium shipments generated 31% of Union Pacific's total freight revenues. Premium includes finished automobiles, automotive parts, and merchandise in intermodal containers, both domestic and international. International business consists of import and export traffic moving in 20 or 40-foot shipping containers, that mainly pass through West Coast ports, destined for one of the Company's many inland intermodal terminals. Domestic business includes container and trailer traffic picked up and delivered within North America for intermodal marketing companies (primarily shipper agents and logistics companies) as well as truckload carriers.

We are the largest automotive carrier west of the Mississippi River and operate or access 38 vehicle distribution centers. The Railroad's extensive franchise serves five vehicle assembly plants and connects to West Coast ports, all six major Mexico gateways, and the Port of Houston to accommodate both import and export shipments. In addition to transporting finished vehicles, the Company provides expedited handling of automotive parts in both boxcars and intermodal containers destined for Mexico, the U.S., and Canada.

Seasonality – Some of the commodities we carry have peak shipping seasons, reflecting either or both the nature of the commodity (such as certain agricultural and food products that have specific growing and harvesting seasons) and the demand cycle for the commodity (such as intermodal traffic that generally peaks during the third quarter to meet back-to-school and holiday-related demand for consumer goods during the fourth quarter). The peak shipping seasons for these commodities can vary considerably each year depending upon various factors, including the strength of domestic and international economies and currencies; consumer demand; the strength of harvests, which can be adversely affected by severe weather; and market prices for agricultural products.

Proud & Engaged Workforce – Safety is a top priority at Union Pacific. We continue to improve technology, enhance processes, and foster a culture focused on operating safely, remaining focused on identifying and managing risks, and training our employees. Our success is measured by our personal injury rate (the number of reportable injuries for every 200,000 employee-hours worked), and our equipment incident rate (the number of reportable equipment incidents per million train miles). We provide both measures to the Federal Railroad Administration (FRA). Personal injuries are defined as on duty incidents or occupational illnesses that require employees to lose time away from work, modify their normal duties, or receive certain types of medical treatment. Equipment incidents are defined as any occurrence that causes damage to assets above the monetary reporting threshold regardless of ownership ($11,200 for 2021 and $11,300 for 2022).

Our goal is to have every employee return home safely every day. Our 2021 personal injury rate of 0.98 and equipment incident rate of 3.80 did not meet expectations and illustrates that we have work to do to achieve an incident-free environment. Our 2021 personal injury rate increased 9% and our equipment incident rate increased 7% versus 2020. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, of this report.)

We recruit and develop talented individuals dedicated to our mission of service and who are passionate about performing to the best of their abilities while working as one team. We value people from all backgrounds and walks of life, and we empower employees to launch and grow their career within the Company. As of December 31, 2021, the Company employed 32,124 employees.

We believe a diverse workforce provides access to the skills and character we need to foster innovative ideas and drive optimal business growth. Drawing on different experiences and expertise is critical for strategic decision-making, problem-solving, leadership development, and creativity.

Union Pacific's commitment, today and for the future, is to further improve and strengthen performance through an inclusive workforce that reflects the diverse markets and communities we serve, where everyone is treated fairly, and differences are valued. To that end, Union Pacific established a goal to reach 40% people of color and 11% female representation in our workforce by 2030. As of December 31, 2021, workforce representation of people of color and females was approximately 31.3% and 5.3%, respectively.

Providing employees with meaningful work and fulfilling careers is important to us. We offer competitive compensation to our employees. We believe employees are more productive when their financial success is aligned with the Company's success. In May 2021, our shareholders approved our employee stock purchase plan (ESPP), allowing participants to receive a 40% Company match of up to 5% of their base compensation (limited to $15,000 annually) to purchase shares in the Company stock. Our Board of Directors evaluates our non-union compensation plans and reviews recommendations from the Compensation and Benefits Committee, while collective bargaining agreements govern compensation for our union employees. The median annual compensation for all employees employed as of December 31, 2021, was $81,179 (excluding the CEO).

Labor Agreements – Approximately 84% of our full-time employees are represented by 13 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. Existing agreements remain in effect until new agreements are ratified or until the RLA procedures are exhausted. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The current round of negotiations began on January 1, 2020, related to years 2020-2024, and all collective bargaining groups are currently in the mediation phase. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare (see "*Strikes or Work Stoppages Could Adversely Affect Our Operations*" in the Risk Factors in Item 1A of this report).

Railroad Security – Our security efforts consist of a wide variety of measures, including employee training, engagement with our customers, training of emergency responders, and partnerships with numerous federal, state, and local government agencies. While federal law requires us to protect the confidentiality of our security plans designed to safeguard against terrorism and other security incidents, the following provides a general overview of our security initiatives.

UPRR Security Measures – We maintain a comprehensive security plan designed to both deter and respond to any potential or actual threats as they arise. The plan includes four levels of alert status, each with its own set of countermeasures. We employ our own police force, consisting of commissioned and highly-trained officers. The police are certified state law enforcement officers with investigative and arrest powers. The Union Pacific Police Department has achieved accreditation under the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA) for complying with the highest law enforcement standards. Our employees undergo recurrent security and preparedness training as well as federally mandated hazardous materials and security training. We regularly review the sufficiency of our employee training programs. We maintain the capability to move critical operations to back-up facilities in different locations.

We operate an emergency response management center 24 hours a day. The center receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, law enforcement, and other government officials. In cooperation with government officials, we monitor both threats and public events, and, as necessary, we may alter rail traffic flow at times of concern to minimize risk to communities and our operations. We comply with the hazardous materials routing rules and other requirements imposed by federal law. We design our operating plan to expedite the movement of hazardous material shipments to minimize the time rail cars remain idle at yards and terminals located in or near major population centers. Additionally, in compliance with Transportation Security Agency regulations, we deployed information systems and instructed employees in tracking and documenting the handoff of Rail Security Sensitive Materials with customers and interchange partners.

We established a number of our own innovative safety and security-oriented initiatives ranging from various investments in technology to The Officer on Train program, which provides local law enforcement officers with the opportunity to ride with train crews to enhance their understanding of railroad operations and risks. Our staff of information security professionals continually assess cybersecurity risks and implement mitigation programs that evolve with the changing technology threat environment. For example, we released critical patches to address the vulnerability in Log4J, a component widely used in our applications and found in commercial software. To date, we have not experienced any material disruption of our operations due to a cyber threat or attack directed at us.

Cooperation with Federal, State, and Local Government Agencies – We work closely on physical and cybersecurity initiatives with government agencies, including the U.S. Department of Transportation (DOT); the Department of Homeland Security (DHS), along with its Cybersecurity & Infrastructure Security Agency (CISA) and Transportation Security Administration (TSA); as well as local police departments, fire departments, and other first responders. In connection with new guidance from the TSA, effective January 1, 2022, we are required to report cyber incidents to CISA, perform a cyber vulnerability self-assessment and submit results to the TSA (by March 31, 2022), assemble and adopt a cyber incident response plan (by June 29, 2022), and appoint cybersecurity coordinators. In conjunction with the Association of American Railroads (AAR), we sponsor Ask Rail, a mobile application that provides first responders with secure links to electronic information, including commodity and emergency response information required by emergency personnel to respond to accidents and other situations. We also participate in the National Joint Terrorism Task Force, a multi-agency effort established by the U.S. Department of Justice and the Federal Bureau of Investigation to combat and prevent terrorism.

We work with the Coast Guard, U.S. Customs and Border Protection (CBP), and the Military Transport Management Command, which monitor shipments entering the UPRR rail network at U.S. border crossings and ports. We were the first railroad in the U.S. to be named a partner in CBP's Customs-Trade Partnership Against Terrorism, a partnership designed to develop, enhance, and maintain effective security processes throughout the global supply chain.

Cooperation with Customers and Trade Associations – Through TransCAER (Transportation Community Awareness and Emergency Response), we work with the AAR, the American Chemistry Council, the American Petroleum Institute, and other chemical trade groups to provide communities with preparedness tools, including the training of emergency responders. In cooperation with the FRA and other interested groups, we are also working to develop additional improvements to tank car design that will further limit the risk of releases of hazardous materials.

Sustainable Future – Union Pacific believes it is important that we act as environmental stewards, reducing emissions and supporting the transition to a more sustainable future. While we work to further reduce our environmental footprint, it is important to note that railroads already are one of the most fuel-efficient means of transportation. According to the Association of American Railroads (AAR), moving freight by rail instead of truck reduces greenhouse gas (GHG) emissions by up to 75%. Building on rail's relative emissions benefits over other modes of transportation, we are taking additional actions to reduce our emissions. These actions are described in our initial Climate Action Plan, which we released in December 2021.

Competition – see "*We Face Competition from Other Railroads and Other Transportation Providers*" in the Risk Factors in Item 1A of this report.

Key Suppliers – see "*We Are Dependent on Certain Key Suppliers of Locomotives and Rail*" in the Risk Factors in Item 1A of this report.

Available Information – Our Internet website is www.up.com. We make available free of charge on our website (under the "Investors" caption link) our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; our current reports on Form 8-K; our proxy statements; Forms 3, 4, and 5, filed on behalf of our directors and certain executive officers; and amendments to such reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act). We provide these reports and statements as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. We also make available on our website previously filed SEC reports and exhibits via a link to EDGAR on the SEC's Internet site at www.sec.gov. Additionally, our corporate governance materials, including By-Laws, Board Committee charters, governance guidelines and policies, and codes of conduct and ethics for directors, officers, and employees are available on our website. From time to time, the corporate governance materials on our website may be updated as necessary to comply with rules issued by the SEC and the NYSE or as desirable to promote the effective and efficient governance of our Company. Any security holder wishing to receive, without charge, a copy of any of our SEC filings or corporate governance materials should send a written request to: Secretary, Union Pacific Corporation, 1400 Douglas Street, Omaha, NE 68179.

References to our website address in this report, including references in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, are provided as a convenience and do not constitute, and should not be deemed, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

GOVERNMENTAL AND ENVIRONMENTAL REGULATION

Governmental Regulation – Our operations are subject to a variety of federal, state, and local regulations, generally applicable to all businesses. (See also the discussion of certain regulatory proceedings in Legal Proceedings, Item 3.)

The operations of the Railroad are subject to the regulations of the FRA and other federal and state agencies as well as the regulatory jurisdiction of the Surface Transportation Board (STB). The STB has jurisdiction over rates charged on certain regulated rail traffic; common carrier service of regulated traffic; freight car compensation; transfer, extension, or abandonment of rail lines; and acquisition of control of rail common carriers. The STB continues its efforts to explore expanding rail regulation and is reviewing proposed rulemaking in various areas, including reciprocal switching, commodity exemptions, and expanding and easing procedures for smaller rate complaints. The STB also continues to explore changes to the methodology for determining railroad revenue adequacy and the possible uses of revenue adequacy in regulating railroad rates. The STB posts quarterly reports on rate reasonableness cases, maintains a database on service complaints, and has the authority to initiate investigations, among other things.

DOT, the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and DHS, along with other federal agencies, have jurisdiction over certain aspects of safety, movement of hazardous materials and hazardous waste, emissions requirements, and equipment standards. Additionally, various state and local agencies have jurisdiction over disposal of hazardous waste and seek to regulate movement of hazardous materials in ways not preempted by federal law.

Environmental Regulation – We are subject to extensive federal and state environmental statutes and regulations pertaining to public health and the environment. The statutes and regulations are administered and monitored by the Environmental Protection Agency (EPA) and by various state environmental agencies. The primary laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating wastewater discharges.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management’s Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Estimates– Environmental, Item 7, and Note 17 to the Financial Statements and Supplementary Data, Item 8.

Table of Contents

Item 1A. Risk Factors

The following discussion addresses significant factors, events, and uncertainties that make an investment in our securities risky and provides important information for the understanding of our “forward-looking statements,” which are discussed immediately preceding Item 7A of this Form 10-K and elsewhere. The risk factors set forth in this Item 1A should be read in conjunction with the rest of the information included in this report, including Management’s Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and Financial Statements and Supplementary Data, Item 8.

We urge you to consider carefully the factors described below and the risks that they present for our operations as well as the risks addressed in other reports and materials that we file with the SEC and the other information included or incorporated by reference in this Form 10-K. When the factors, events, and contingencies described below or elsewhere in this Form 10-K materialize, our business, reputation, financial condition, results of operations, cash flows, or prospects can be materially adversely affected. In such case, the trading price of our common stock could decline and you could lose part or all of your investment. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also materially adversely affect our business, reputation, financial condition, results of operations, cash flows, and prospects.

Strategic and Operational Risks

We Must Manage Fluctuating Demand for Our Services and Network Capacity – Significant reductions in demand for rail services with respect to one or more commodities or changes in consumer preferences that affect the businesses of our customers can lead to increased costs associated with resizing our operations, including higher unit operating costs and costs for the storage of locomotives, rail cars, and other equipment; work-force adjustments; and other related activities, which could have a material adverse effect on our results of operations, financial condition, and liquidity. If there is significant demand for our services that exceeds the designed capacity of our network, we may experience network difficulties, including congestion and reduced velocity, that could compromise the level of service we provide to our customers. This level of demand may also compound the impact of weather and weather-related events on our operations and velocity. Although we continue to improve our transportation plan, add capacity, improve operations at our yards and other facilities, and improve our ability to address surges in demand for any reason with adequate resources, we cannot be sure that these measures will fully or adequately address any service shortcomings resulting from demand exceeding our planned capacity. We may experience other operational or service difficulties related to network capacity, dramatic and unplanned fluctuations in our customers’ demand for rail service with respect to one or more commodities or operating regions, or other events that could negatively impact our operational efficiency, which could all have a material adverse effect on our results of operations, financial condition, and liquidity.

We Transport Hazardous Materials – We transport certain hazardous materials and other materials, including crude oil, ethanol, and toxic inhalation hazard (TIH) materials, such as chlorine, that pose certain risks in the event of a release or combustion. Additionally, U.S. laws impose common carrier obligations on railroads that require us to transport certain hazardous materials regardless of risk or potential exposure to loss. A rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release or combustion of hazardous materials could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation in excess of our insurance coverage for these risks, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Rely on Technology and Technology Improvements in Our Business Operations – We rely on information technology in all aspects of our business, including technology systems operated by us or under control of third-parties. If we do not have sufficient capital or do not deploy sufficient capital in a timely manner to acquire, develop, or implement new technology or maintain or upgrade current systems, such as Positive Train Control (PTC) or the latest version of our transportation control systems, we may suffer a competitive disadvantage within the rail industry and with companies providing other modes of transportation service, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Cybersecurity Risks – We rely on information technology in all aspects of our business, including technology systems operated by us (whether created by us or purchased), under control of third-parties, or open-source software. Although we devote significant resources to protect our technology systems and proprietary data, we have experienced and will likely continue to experience varying degrees of cyber incidents in the normal course of business. There can be no assurance that the systems we have designed to prevent or limit the effects of cyber incidents or attacks will be sufficient to prevent or detect such incidents or attacks, or to avoid a material adverse impact on our systems after such incidents or attacks do occur. Furthermore, due to the rising numbers and increasing sophistication of cyber-attacks, an increasingly complex information technology supply chain, and the nature of zero-day exploits, we may be unable to anticipate or implement adequate preventative measures to prevent a security breach, including by ransomware, human error, or other cyber-attack methods, from materially disrupting our systems or the systems of third-parties. A successful cyber-attack may result in significant service interruption; safety failure; other operational difficulties; unauthorized access to (or the loss of access to) competitively sensitive, confidential, or other critical data or systems; loss of customers; financial losses; regulatory fines; and misuse or corruption of critical data and proprietary information, which could all have a material adverse impact on our results of operations, financial condition, and liquidity. We may experience security breaches that could remain undetected for an extended period and, therefore, have a greater impact on the services we offer. Additionally, we may be exposed to increased cybersecurity risk because we are a component of the critical U.S. infrastructure.

Severe Weather Could Result in Significant Business Interruptions and Expenditures – As a railroad with a vast network, we are exposed to severe weather conditions and other natural phenomena, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures, avalanches, and significant precipitation. Line outages and other interruptions caused by these conditions can adversely affect our entire rail network, potentially negatively affecting revenue, costs, and liabilities, despite efforts we undertake to plan for these events. Our revenues can also be adversely affected by severe weather that causes damage and disruptions to our customers. These impacts caused by severe weather could have a material adverse effect on our results of operations, financial condition, and liquidity.

A Significant Portion of Our Revenue Involves Transportation of Commodities to and from International Markets – Although revenues from our operations are attributable to transportation services provided in the U.S., a significant portion of our revenues involves the transportation of commodities to and from international markets, including Mexico, Canada, and Southeast Asia, by various carriers and, at times, various modes of transportation. Significant and sustained interruptions of trade with Mexico, Canada, or countries in Southeast Asia, including China, could adversely affect customers and other entities that, directly or indirectly, purchase or rely on rail transportation services in the U.S. as part of their operations, and any such interruptions could have a material adverse effect on our results of operations, financial condition, and liquidity. Any one or more of the following could cause a significant and sustained interruption of trade with Mexico, Canada, or countries in Southeast Asia: (a) a deterioration of security for international trade and businesses; (b) the adverse impact of new laws, rules, and regulations or the interpretation of laws, rules, and regulations by government entities, courts, or regulatory bodies, including the United States-Mexico-Canada Agreement (USMCA) and a "Phase One" trade agreement with China; (c) actions of taxing authorities that affect our customers doing business in foreign countries; (d) any significant adverse economic developments, such as extended periods of high inflation, material disruptions in the banking sector or in the capital markets of these foreign countries, and significant changes in the valuation of the currencies of these foreign countries that could materially affect the cost or value of imports or exports; (e) shifts in patterns of international trade that adversely affect import and export markets; (f) a material reduction in foreign direct investment in these countries; and (g) public health crises, including the outbreak of pandemic or contagious disease, such as the coronavirus and its variant strains (COVID).

We Are Dependent on Certain Key Suppliers of Locomotives and Rail – Due to the capital-intensive nature and sophistication of locomotive equipment, parts, and maintenance, potential new suppliers face high barriers to entry. Therefore, if one of the domestic suppliers of high horsepower locomotives discontinues manufacturing locomotives, supplying parts, or providing maintenance for any reason, including bankruptcy or insolvency or the inability to manufacture locomotives that meet efficiency or regulatory emissions standards, we could experience significant cost increases and reduced availability of the locomotives that are necessary for our operations. Additionally, we utilize a limited number of steel producers that meet our specifications. Rail is critical to our operations for rail replacement programs, maintenance, and for adding additional network capacity, new rail and storage yards, and expansions of existing facilities. This industry similarly has high barriers to entry, and if one of these suppliers discontinues operations for any reason, including bankruptcy or insolvency, we could experience both significant cost increases for rail purchases and difficulty obtaining sufficient rail for maintenance and other projects. Changes to trade agreements or policies that result in increased tariffs on goods imported into the United States could also result in significant cost increases for rail purchases and difficulty obtaining sufficient rail.

Human Capital Risks

Strikes or Work Stoppages Could Adversely Affect Our Operations – The U.S. Class I railroads are party to collective bargaining agreements with various labor unions. The majority of our employees belong to labor unions and are subject to these agreements. Disputes over the terms of these agreements or our potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns, or lockouts, which could cause a significant disruption of our operations and have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could compromise our service reliability or significantly increase our costs for health care, wages, and other benefits, which could have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns, or lockouts at loading/unloading facilities, ports, or other transport access points could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns, or lockouts by employees of our customers or our suppliers could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity.

The Availability of Qualified Personnel Could Adversely Affect Our Operations – Changes in demographics, training requirements, and the availability of qualified personnel for us, our customers, and throughout the supply chain, including the effects on availability from pandemic illnesses or restrictions (including, for example, any potential effects from the coronavirus vaccine mandates), could negatively affect our ability to meet demand for rail service. Unpredictable increases in demand for rail services and a lack of network fluidity may exacerbate such risks, which could have a negative impact on our operational efficiency and otherwise have a material adverse effect on our results of operations, financial condition, and liquidity.

Legal and Regulatory Risks

We Are Subject to Significant Governmental Regulation – We are subject to governmental regulation by a significant number of federal, state, and local authorities covering a variety of health, safety, labor, environmental, economic (as discussed below), tax, and other matters. Many laws and regulations require us to obtain and maintain various licenses, permits, and other authorizations, and we cannot guarantee that we will continue to be able to do so. Our failure to comply with applicable laws and regulations could have a material adverse effect on us. Governments or regulators may change the legislative or regulatory frameworks that we operate in without providing us any recourse to address any adverse effects on our business, including, without limitation, regulatory determinations or rules regarding dispute resolution, increasing the amount of our traffic subject to common carrier regulation, business relationships with other railroads, calculation of our cost of capital or other inputs relevant to computing our revenue adequacy, the prices we charge, changes in tax rates, enactment of new tax laws, and revision in tax regulations. Significant legislative activity in Congress or regulatory activity by the STB could expand regulation of railroad operations and pricing for rail services, which could reduce capital spending on our rail network, facilities, and equipment, and have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures – As a railroad with operations in densely populated urban areas and a vast rail network, we are exposed to the potential for various claims and litigation related to labor and employment, personal injury, property damage, environmental liability, and other matters. Any material changes to litigation trends or a catastrophic rail accident or series of accidents involving any or all of property damage, personal injury, and environmental liability that exceed our insurance coverage for such risks could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Environmental Laws and Regulations – Due to the nature of the railroad business, our operations are subject to extensive federal, state, and local environmental laws and regulations concerning, among other things, emissions to the air; discharges to waters; handling, storage, transportation, and disposal of waste and other materials; and hazardous material or petroleum releases. We generate and transport hazardous and non-hazardous waste in our operations. Environmental liability can extend to previously owned or operated properties, leased properties, properties owned by third-parties, as well as properties we currently own. Environmental liabilities have arisen and may also arise from claims asserted by adjacent landowners or other third-parties in toxic tort litigation. We have been and may be subject to allegations or findings that we have violated, or are strictly liable under, these laws or regulations. We currently have certain obligations at existing sites for investigation, remediation, and monitoring, and we likely will have obligations at other sites in the future. Liabilities for these obligations affect our estimate based on our experience and, as necessary, the advice and assistance of our consultants. However, actual costs may vary from our estimates due to any or all of several factors, including changes to environmental laws or interpretations of such laws, technological changes affecting investigations and remediation, the participation and financial viability of other parties responsible for any such liability, and the corrective action or change to corrective actions required to remediate any existing or future sites. We could incur significant costs as a result of any of the foregoing, and we may be required to incur significant expenses to investigate and remediate known, unknown, or future environmental contamination, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

Macroeconomic and Industry Risks

We Face Competition from Other Railroads and Other Transportation Providers – We face competition from other railroads, motor carriers, ships, barges, and pipelines. Our main railroad competitor is Burlington Northern Santa Fe LLC. Its primary subsidiary, BNSF Railway Company (BNSF), operates parallel routes in many of our main traffic corridors. In addition, we operate in corridors served by other railroads and motor carriers. Motor carrier competition exists for all three of our commodity groups (excluding most coal shipments). Because of the proximity of our routes to major inland and Gulf Coast waterways, barges can be particularly competitive, especially for grain and bulk commodities in certain areas where we operate. In addition to price competition, we face competition with respect to transit times, quality, and reliability of service from motor carriers and other railroads. Motor carriers in particular can have an advantage over railroads with respect to transit times and timeliness of service. However, railroads are much more fuel-efficient than trucks, which reduces the impact of transporting goods on the environment and public infrastructure, and we have been making efforts to convert truck traffic to rail. Additionally, we must build or acquire and maintain our rail system, while trucks, barges, and maritime operators are able to use public rights-of-way maintained by public entities. Any of the following could also affect the competitiveness of our transportation services for some or all of our commodities, which could have a material adverse effect on our results of operations, financial condition, and liquidity: (i) improvements or expenditures materially increasing the quality or reducing the costs of these alternative modes of transportation, such as autonomous or more fuel efficient trucks, (ii) legislation that eliminates or significantly increases the size or weight limitations applied to motor carriers, or (iii) legislation or regulatory changes that impose operating restrictions on railroads or that adversely affect the profitability of some or all railroad traffic. Many movements face product or geographic competition where our customers can use different products (e.g., natural gas instead of coal, sorghum instead of corn) or commodities from different locations (e.g., grain from states or countries that we do not serve, crude oil from different regions). Sourcing different commodities or different locations allows shippers to substitute different carriers and such competition may reduce our volume or constrain prices. Additionally, any future consolidation of the rail industry could materially affect our competitive environment.

We May Be Affected by Climate Change and Market or Regulatory Responses to Climate Change – Climate change, including the impact of global warming, could have a material adverse effect on our results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of GHGs, including diesel exhaust, could significantly increase our operating costs. Restrictions on emissions could also affect our customers that (a) use commodities that we carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities we carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers and food producers, and automakers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy, emissions reductions, and GHG emissions could materially affect the markets for the commodities we carry and demand for our services, which in turn could have a material adverse effect on our results of operations, financial condition, and liquidity. Government incentives encouraging the use of alternative sources of energy also could affect certain of our customers and the markets for certain of the commodities we carry in an unpredictable manner that could alter our traffic patterns, including, for example, increasing royalties charged to producers of PRB coal by the U.S. Department of Interior and the impacts of ethanol incentives on farming and ethanol producers. We could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change. Violent weather caused by climate change, including earthquakes, hurricanes, fires, floods, extreme temperatures, avalanches, and significant precipitation could cause line outages and other interruptions to our infrastructure. Any of these factors, individually or in operation with one or more of the other factors, or other unforeseen impacts of climate change could reduce the amount of traffic we handle and have a material adverse effect on our results of operations, financial condition, and liquidity. While we work to implement our Climate Action Plan, our efforts to achieve emission reduction targets could significantly increase our operational costs and capital expenditures.

Our business, financial condition, and results of operations have been adversely affected, and in the future, could be materially adversely affected by pandemics or other public health crises – Our business, financial condition, and results of operations have been adversely affected by COVID. COVID has caused, and is expected to continue to cause, a global slowdown of economic activity (including the decrease in demand for a broad variety of goods), disruptions in global supply chains, and significant volatility and disruption of financial markets, resulting further in adverse effects on workforces, customers, and regional and local economies. Other future pandemics or public health crises may cause these same or similar consequences. Because the severity, magnitude, and duration of the COVID pandemic and its economic consequences are rapidly changing, and difficult to predict, the impact on our business and financial condition remains uncertain. The ultimate impact of the COVID pandemic on our results of operations and financial condition remains uncertain and depends on numerous evolving factors, which we may not be able to effectively respond to and are not entirely within our control. These factors also may be of importance for other pandemics or public health crises, including, but not limited to: governmental, business, and individuals' actions that have been and continue to be taken in response to a global pandemic or other public health crises (including restrictions on travel and transport, workforce pressures, social distancing, and shelter-in-place orders); the effect of a pandemic or other public health crises on economic activity and actions taken in response; the effect on our customers and their demand for our services; the effect of a pandemic or other public health crises on the credit-worthiness of our customers; national or global supply chain challenges or disruption; facility closures; commodity cost volatility; general economic uncertainty in key global markets and financial market volatility; global economic conditions and levels of economic growth; and the pace of recovery as the pandemic subsides as well as response to a potential reoccurrence. Further, a pandemic or other public health crises, and the volatile regional and global economic conditions stemming from such an event, could also precipitate and aggravate the other risk factors that we identify, which could materially adversely affect our business, financial condition, results of operations (including revenues and profitability), and/or stock price. Additionally, a pandemic or other public health crises also may affect our operating and financial results in a manner that is not presently known to us or that we currently do not consider to present significant risks to our operations.

Financial Risks

We Are Affected By Fluctuating Fuel Prices – Fuel costs constitute a significant portion of our transportation expenses. Diesel fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on our operating results. Although we currently are able to recover a significant amount of our fuel expenses from our customers through revenue from fuel surcharges, we cannot be certain that we will always be able to mitigate rising or elevated fuel costs through our fuel surcharges. Additionally, future market conditions or legislative or regulatory activities could adversely affect our ability to apply fuel surcharges or adequately recover increased fuel costs through fuel surcharges. As fuel prices fluctuate, our fuel surcharge programs trail such fluctuations in fuel price by approximately two months, and may be a significant source of quarter-over-quarter and year-over-year volatility, particularly in periods of rapidly changing prices. International, political, and economic factors, events and conditions affect the volatility of fuel prices and supplies. Weather can also affect fuel supplies and limit domestic refining capacity. A severe shortage of, or disruption to, domestic fuel supplies could have a material adverse effect on our results of operations, financial condition, and liquidity. Alternatively, lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products we transport. However, lower fuel prices could have a negative impact on other commodities we transport, such as coal and domestic drilling-related shipments, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Rely on Capital Markets – Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, we rely on the capital markets to provide some of our capital requirements. We utilize long-term debt instruments, bank financing, and commercial paper, and we pledge certain amount of our receivables as collateral for credit. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial condition due to internal or external factors could restrict or prohibit our access to, and significantly increase the cost of, commercial paper and other financing sources, including bank credit facilities and the issuance of long-term debt, including corporate bonds. A significant deterioration of our financial condition could result in a reduction of our credit rating to below investment grade, which could restrict or, at certain credit levels below investment grade, may prohibit us from utilizing our current receivables securitization facility (Receivables Facility). This may also limit our access to external sources of capital and significantly increase the costs of short and long-term debt financing.

General Risk Factors

We Are Affected by General Economic Conditions – Prolonged, severe adverse domestic and global economic conditions or disruptions of financial and credit markets, including inflation, may affect the producers and consumers of the commodities we carry and may have a material adverse effect on our access to liquidity, results of operations, and financial condition.

We May Be Affected by Acts of Terrorism, War, or Risk of War – Our rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Terrorist attacks, or other similar events, any government response thereto, and war or risk of war may adversely affect our results of operations, financial condition, and liquidity. In addition, insurance premiums for some or all of our current coverages could increase dramatically, or certain coverages may not be available to us in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We employ a variety of assets in the management and operation of our rail business. Our rail network covers 23 states in the western two-thirds of the U.S.

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TRACK

Our rail network includes 32,452 route miles. We own 26,124 miles and operate on the remainder pursuant to trackage rights or leases. The following table describes track miles at December 31, 2021 and 2020:

	2021	*2020*
Route	**32,452**	32,313
Other main line	**7,093**	7,097
Passing lines and turnouts	**3,412**	3,382
Switching and classification yard lines	**8,887**	9,001
Total miles	**51,844**	51,793

HEADQUARTERS BUILDING

We own our headquarters building in Omaha, Nebraska. The facility has 1.2 million square feet of space that can accommodate approximately 4,000 employees.

HARRIMAN DISPATCHING CENTER

The Harriman Dispatching Center (HDC), located in Omaha, Nebraska, is our primary dispatching facility. It is linked to regional dispatching and locomotive management facilities at various locations along our network. HDC employees coordinate moves of locomotives and trains, manage traffic and train crews on our network, and coordinate interchanges with other railroads. More than 500 employees currently work on-site in the facility. In the event of a disruption of operations at HDC due to a cyber-attack, flooding or severe weather, pandemic outbreak, or other event, we maintain the capability to conduct critical operations at back-up facilities in different locations.

Table of Contents

RAIL FACILITIES

In addition to our track structure, we operate numerous facilities, including terminals for intermodal and other freight; rail yards for building trains (classification yards), switching, storage-in-transit (the temporary storage of customer goods in rail cars prior to shipment), and other activities; offices to administer and manage our operations; dispatching centers to direct traffic on our rail network; crew on duty locations for train crews along our network; and shops and other facilities for fueling, maintenance, and repair of locomotives and repair and maintenance of rail cars and other equipment. The following table includes the major yards and terminals on our system:

Major Classification Yards	*Major Intermodal Terminals*
North Platte, Nebraska	Joliet (Global 4), Illinois
North Little Rock, Arkansas	Global II (Chicago), Illinois
Englewood (Houston), Texas	East Los Angeles, California
Livonia, Louisiana	Lathrop, California
West Colton, California	LATC (Los Angeles), California
Fort Worth, Texas	Mesquite, Texas
Houston, Texas	City of Industry, California
Roseville, California	ICTF (Los Angeles), California

RAIL EQUIPMENT

Our equipment includes owned and leased locomotives and rail cars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices, and facilities; and vehicles for maintenance, transportation of crews, and other activities. As of December 31, 2021, we owned or leased the following units of equipment:

Locomotives	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Multiple purpose	6,204	1,038	7,242	22.5
Switching	158	-	158	41.4
Other	15	61	76	41.3
Total locomotives	6,377	1,099	7,476	N/A

Freight cars	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Covered hoppers	12,992	7,996	20,988	22.4
Open hoppers	5,108	817	5,925	34.8
Gondolas	5,468	2,671	8,139	28.8
Boxcars	2,210	6,604	8,814	40.6
Refrigerated cars	1,974	2,081	4,055	22.6
Flat cars	2,260	1,139	3,399	32.3
Other	-	263	263	33.2
Total freight cars	30,012	21,571	51,583	N/A

Highway revenue equipment	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Containers	48,962	1,856	50,818	10.5
Chassis	29,875	14,148	44,023	12.6
Total highway revenue equipment	78,837	16,004	94,841	N/A

We continuously assess our need for equipment to run an efficient and reliable network. Many factors cause us to adjust the size of our active fleets, including changes in carload volume, weather events, seasonality, customer preferences, and operational efficiency initiatives. As some of these factors are difficult to assess or can change rapidly, we maintain a surge fleet to remain agile. Without the surge fleet, our ability to react quickly is hindered as equipment suppliers are limited and lead times to acquire equipment are long and may be in excess of a year. We believe our locomotive and freight car fleets are appropriately sized to meet our current and future business requirements. These fleets serve as the most reliable and efficient equipment to facilitate growth without additional acquisitions. Locomotive and freight car in service utilization percentages for the year ended December 31, 2021, were 62% and 80%, respectively.

CAPITAL EXPENDITURES

Our rail network requires significant annual capital investments for replacement, improvement, and expansion. These investments enhance safety, support the transportation needs of our customers, improve our operational efficiency, and support emission reduction initiatives outlined in our Climate Action Plan. Additionally, we add new equipment to our fleet to replace older equipment and to support growth and customer demand.

2021 Capital Program – During 2021, our capital program totaled approximately $3.0 billion. (See the cash capital investments table in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7, of this report.)

2022 Capital Plan – In 2022, we expect our capital plan to be approximately $3.3 billion, up 10% from 2021. (See further discussion of our 2022 capital plan in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7, of this report.)

OTHER

Equipment Encumbrances – Equipment with a carrying value of approximately $1.2 billion and $1.3 billion at December 31, 2021 and 2020, respectively, served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Environmental Matters – Certain of our properties are subject to federal, state, and local laws and regulations governing the protection of the environment. (See discussion within this report of environmental issues in Business – Governmental and Environmental Regulation, Item 1; Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Estimates – Environmental, Item 7; and Note 17 to the Financial Statements and Supplementary Data, Item 8.)

Item 3. Legal Proceedings

From time to time, we are involved in legal proceedings, claims, and litigation that occur in connection with our business. We routinely assess our liabilities and contingencies in connection with these matters based upon the latest available information, and, when necessary, we seek input from our third-party advisors when making these assessments. Consistent with SEC rules and requirements, we describe below material pending legal proceedings (other than ordinary routine litigation incidental to our business), material proceedings known to be contemplated by governmental authorities, other proceedings arising under federal, state, or local environmental laws and regulations (including governmental proceedings involving potential fines, penalties, or other monetary sanctions in excess of $1,000,000), and such other pending matters that we may determine to be appropriate.

ENVIRONMENTAL MATTERS

We receive notices from the EPA and state environmental agencies alleging that we are or may be liable under federal or state environmental laws for remediation costs at various sites throughout the U.S., including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in this report in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Estimates – Environmental, Item 7, and Note 17 to the Financial Statements and Supplementary Data, Item 8.

OTHER MATTERS

Antitrust Litigation – As we reported in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, 20 rail shippers (many of whom were represented by the same law firms) filed virtually identical antitrust lawsuits in various federal district courts against us and four other Class I railroads in the U.S. Currently, UPRR and three other Class I railroads are the named defendants in the lawsuits. The original plaintiff filed the first of these claims in the U.S. District Court in New Jersey on May 14, 2007. These suits alleged that the named railroads engaged in price-fixing by establishing common fuel surcharges for certain rail traffic.

On August 16, 2019, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) affirmed the decision of U.S. District Court for the District of Columbia (U.S. District Court) denying class certification (the Certification Denial). Only five plaintiffs remain in this multidistrict litigation (MDL) originally filed in 2007, which remains pending. They are proceeding on a consolidated basis in the U.S. District Court before the Honorable Paul L. Friedman (MDL I). Since the Certification Denial, approximately 111 lawsuits have been filed in federal court based on claims identical to those alleged in the class certification case. The Judicial Panel on Multidistrict Litigation consolidated these suits for pretrial proceedings in the U.S. District Court before the Honorable Beryl A. Howell (MDL II).

On February 19, 2021, the court denied our motion to exclude plaintiffs' alleged evidence of conspiracy under a federal statute designed to incent and protect railroad communications made to further interline service (i.e., where two railroads are in the route). In August 2021, the D.C. Circuit agreed to hear Defendants' appeal. Oral argument is scheduled for March 7, 2022. The appeal will address whether the interline evidence the plaintiffs intend to utilize to prove the alleged conspiracy is admissible either for purposes of summary judgment or at trial.

We also filed a motion for summary judgment on May 14, 2021, in the MDL I proceedings, and the briefing was completed in September 2021. On October 20, 2021, Judge Friedman issued an order stating that he will not consider the motions for summary judgment until after the D.C. Circuit appeal mentioned above is decided.

As we reported in our Current Report on Form 8-K, filed on June 10, 2011, the Railroad received a complaint filed in the U.S. District Court for the District of Columbia on June 7, 2011, by Oxbow Carbon & Minerals LLC and related entities (Oxbow). Just as it did in the MDL proceedings, Union Pacific filed a motion for summary judgment on May 14, 2021, and the briefing was completed in September 2021. As stated above, the court issued an order that will not consider the motions for summary judgment until after the D.C. Circuit appeal mentioned above is decided.

We continue to deny the allegations that our fuel surcharge programs violate the antitrust laws or any other laws. We believe that these lawsuits are without merit, and we will vigorously defend our actions. Therefore, we currently believe that these matters will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

Item 4. Mine Safety Disclosures

Not applicable.

Table of Contents

Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries

The Board of Directors typically elects and designates our executive officers on an annual basis at the board meeting held in conjunction with the Annual Meeting of Shareholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year, as the Board of Directors considers appropriate. There are no family relationships among the officers, nor is there 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 current as of February 4, 2022, relating to the executive officers.

Name	Position	Age	Business Experience During Past Five Years
Lance M. Fritz	Chairman, President, and Chief Executive Officer of UPC and the Railroad	59	Current Position
Jennifer L. Hamann	Executive Vice President and Chief Financial Officer of UPC and the Railroad	54	[1]
Craig V. Richardson	Executive Vice President, Chief Legal Officer, and Corporate Secretary of UPC and the Railroad	60	[2]
Kenny G. Rocker	Executive Vice President – Marketing and Sales of the Railroad	50	[3]
Todd M. Rynaski	Vice President and Controller of UPC and the Railroad	51	Current Position
Eric J. Gehringer	Executive Vice President – Operations of the Railroad	42	[4]
Elizabeth F. Whited	Executive Vice President – Sustainability and Strategy of UPC and the Railroad	56	[5]

[1] *Ms. Hamann was elected Executive Vice President and Chief Financial Officer of UPC and the Railroad effective January 1, 2020. She previously served as Senior Vice President – Finance (April 2019 – December 2019), Vice President – Planning & Analysis (October 2017 – March 2019), and Vice President & General Manager – Marketing and Sales – Autos team (February 2016 – September 2017).*

[2] *Mr. Richardson was elected Executive Vice President, Chief Legal Officer, and Corporate Secretary of UPC and the Railroad effective December 8, 2020. He most recently served as Vice President – Commercial and Regulatory Law since 2015.*

[3] *Mr. Rocker was elected Executive Vice President – Marketing and Sales of the Railroad effective August 15, 2018. Mr. Rocker previously served at the Railroad as Vice President – Marketing and Sales – Industrial team (October 2016 – August 2018).*

[4] *Mr. Gehringer was elected Executive Vice President – Operations of the Railroad effective January 1, 2021. Mr. Gehringer previously served as Senior Vice President – Transportation (July 2020 – December 2020), Vice President – Mechanical and Engineering (January 2020 – July 2020), Vice President – Engineering (March 2018 – January 2020), and Assistant Vice President – Engineering (September 2016 – March 2018).*

[5] *Ms. Whited was elected Executive Vice President – Sustainability and Strategy of UPC and the Railroad effective February 3, 2022. She previously served as Executive Vice President and Chief Human Resources Officer (August 2018 – February 2022) and Executive Vice President and Chief Marketing Officer (December 2016 – August 2018).*

PART II

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

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "UNP".

At January 28, 2022, there were 636,898,957 shares of common stock outstanding and 29,397 common shareholders of record. On that date, the closing price of the common stock on the NYSE was $245.93. We paid dividends to our common shareholders during each of the past 122 years.

Comparison Over One- and Three-Year Periods – The following table presents the cumulative total shareholder returns, assuming reinvestment of dividends, over one- and three-year periods for the Corporation (UNP), a peer group index (comprised of CSX Corporation and Norfolk Southern Corporation), the Dow Jones Transportation Index (DJ Trans), and the Standard & Poor's 500 Stock Index (S&P 500).

Period	*UNP*	*Peer Group*	*DJ Trans*	*S&P 500*
1 Year (2021)	23.3 %	26.4 %	33.2 %	28.7 %
3 Year (2019 - 2021)	94.0	98.7	87.6	100.3

Five-Year Performance Comparison – The following graph provides an indicator of cumulative total shareholder returns for the Corporation as compared to the peer group index (described above), the DJ Trans, and the S&P 500. The graph assumes that $100 was invested in the common stock of Union Pacific Corporation and each index on December 31, 2016, and that all dividends were reinvested. The information below is historical in nature and is not necessarily indicative of future performance.

stockperformance01.jpg

Purchases of Equity Securities – During 2021, we repurchased 33,760,492 shares of our common stock at an average price of $218.36. The following table presents common stock repurchases during each month for the fourth quarter of 2021:

Period	*Total Number of Shares Purchased [a]*	*Average Price Paid Per Share*	*Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program*	*Maximum Number of Shares Remaining Under the Plan or Program [b]*
Oct. 1 through Oct. 31	2,418,989	$ 220.04	2,344,253	81,178,648
Nov. 1 through Nov. 30	1,479,605	240.95	1,432,039	79,746,609
Dec. 1 through Dec. 31	2,064,394	245.00	2,061,259	77,685,350
Total	5,962,988	$ 233.87	5,837,551	N/A

[a] Total number of shares purchased during the quarter includes approximately 125,437 shares delivered or attested to UPC by employees to pay stock option exercise prices, satisfy excess tax withholding obligations for stock option exercises or vesting of retention units, and pay withholding obligations for vesting of retention shares.

[b] Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions.

Item 6. [Reserved]

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable notes to the Financial Statements and Supplementary Data, Item 8, and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Estimates and Cautionary Information at the end of this Item 7. The following section generally discusses 2021 and 2020 items and year-to-year comparisons between 2021 and 2020. Discussions of 2019 items and year-to-year comparisons between 2020 and 2019 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7, of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable business segment. Although revenue is analyzed by commodity, we analyze the net financial results of the Railroad as one segment due to the integrated nature of the rail network.

EXECUTIVE SUMMARY

2021 Results

- **Coronavirus Pandemic** – Our results during 2021 continued to be impacted by the effects of COVID. Most notably were supply chain issues in the automotive industry due to semiconductor chip shortages and congestion in several parts of the intermodal supply chain. The impact of the semiconductor chip shortage is masked in our year-over-year financial comparison for 2021 and 2020 as the second quarter of 2020 saw a temporary suspension of automotive production due to the pandemic. Excluding the second quarter, automotive shipments were down 14% year-over-year. The pandemic also upended the intermodal supply chain as demand for consumer goods remained high. The elevated demand adversely affected the ports, chassis availability, truck driver supply, and warehouse receiving capacity. These disruptions limited our revenue growth by slowing asset turns and increasing costs through lower freight car velocity and multiple container handlings that impeded our operating efficiency. Rail carloadings also were impacted as adjustments made to compensate for constrained inland drayage and warehouse capacity shifted traffic patterns, driving declines in international intermodal shipments. Demand in other markets increased as the economy recovered.

On October 11, 2021, the Company announced that it is complying with the Presidential Executive Order 14042 (EO) that mandates employees of federal contractors and subcontractors be fully vaccinated against COVID, unless employees are legally entitled to an accommodation. A federal district court issued a nationwide injunction against the vaccine mandate in the EO. The company is complying with the injunction while continuing to encourage employees to get their vaccinations.

Full implementation and enforcement of the COVID vaccine mandate may affect workforce availability ranging from, among other things, absences to obtain vaccination, recovery from any side-effects, resignations from unwillingness to comply with the mandate, and/or organized work stoppages from any of our organized union labor workforce. After receiving communications from three of our unions objecting to the vaccination requirement, we filed lawsuits on October 15, 2021, to prevent any disruption to the national rail network. We seek to resolve any vaccination dispute through the various dispute resolution procedures outlined in the Railway Labor Act. These lawsuits have been stayed pending a final disposition of the enforceability of the EO by the court.

- **Safety** – The health and wellbeing of our employees was a focal point in 2021 as we navigated the continuously changing environment due to COVID. We have and are continuing to adapt to protect the safety of our employees, our customers, and the communities we serve. Safety procedures and policies continue to be refined based on Centers for Disease Control and Prevention (CDC) guidelines.

  In this ever-changing environment, we remain intently focused on reducing risk and eliminating incidents for our employees, our customers, and the public. We continued to use Total Safety Culture, Courage to Care, COMMIT (Coaching, Observing, Mentoring, and Motivating with Integrity and Trust), and Peer to Peer throughout our operations to enhance employee safety and engagement. Throughout the year, we worked to implement a physics engine and proprietary software to evaluate train and route characteristics to enable proactive intervention to prevent derailments. Despite these efforts, our safety results deteriorated year-over-year. Our reportable personal injury incidents rate per 200,000 employee-hours of 0.98 increased 9% from 2020 and our reportable equipment incident rate per million train miles increased 7%. In the second half of 2021, we engaged a third-party expert to evaluate the effectiveness of our safety programs and received recommendations for improvement, which we will implement in 2022.

- **Network Operations** – We faced many operational challenges throughout 2021, including Winter Storm Uri, global supply chain disruptions, wildfires, bridge outages, mudslides, and hurricanes. These challenges required adjustments to our transportation plans and impacted overall fluidity of the network. As a result, many of our operating metrics deteriorated year-over-year. Freight car velocity decreased due to increased terminal dwell and higher operating car inventory levels, which drove lower trip plan compliance. To assist with improving network fluidity we are maintaining higher crew and locomotive resources in the short-term. Once the network is balanced and service is restored, we will adjust our resources to the current volume levels. Additional details on these metrics are discussed in Other Operating/Performance and Financial Statistics of this Item 7.

- **Freight Revenues** – Our freight revenues increased 11% year-over-year to $20.2 billion driven by a 4% increase in volume, higher fuel surcharge revenue, core pricing gains, and positive mix of traffic (for example, a relative increase in industrial shipments, which have a higher average revenue per car (ARC)). Volume increased in every key market segment compared to 2020 due to the recovery from the depressed economy brought on by the COVID pandemic in 2020. While the markets rebounded from 2020, our 2021 volume levels were 4% below 2019 pre-pandemic levels.

- **Financial Results** – In 2021, we generated operating income of $9.3 billion, 19% above 2020, as we recovered from the impacts of COVID. In addition, 2020 included a non-cash impairment charge of $278 million related to our Brazos yard investment. Higher fuel prices, increased volume-related costs, inflation, and costs associated with Winter Storm Uri and the wildfires in California drove operating expenses up 7% from 2020. Revenue from the additional volume and traffic mix, higher fuel surcharge revenue, improved pricing, productivity initiatives, and intermodal accessorial charges more than offset the increased expenses, producing an all-time record 57.2% operating ratio, improving 2.7 points from 2020. Net income of $6.5 billion translated into earnings of $9.95 per diluted share, up 26% from 2020.

- **Fuel Prices** – Our average price of diesel fuel in 2021 was $2.23 per gallon, an increase of 49% from 2020. The higher price resulted in higher operating expenses of $668 million (excluding any impact from year-over-year volume increases). Gross ton-miles increased 6% driving higher fuel expense. Partially offsetting this increase was a 1% improvement to a record low fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles.

- **Liquidity** – We are continually evaluating our financial condition and liquidity. On December 31, 2021, we had $960 million of cash and cash equivalents. Despite the challenging year, we generated $9.0 billion of cash from operating activities, yielding free cash flow of $3.5 billion after reductions of $2.7 billion for cash used in investing activities and $2.8 billion in dividends. We repurchased $7.3 billion of our shares. We have been, and we expect to continue to be, in compliance with our debt covenants. We have $2.0 billion of credit available under our revolving credit facility and up to $500 million undrawn on our Receivables Facility. As of December 31, 2021, none of the revolving credit facility was drawn. Additional details are discussed in Liquidity and Capital Resources of this Item 7.

Free cash flow is defined as cash provided by operating activities less cash used in investing activities and dividends paid. Free cash flow is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe free cash flow is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financing. Free cash flow should be considered in addition to, rather than as a substitute for, cash provided by operating activities. The following table reconciles cash provided by operating activities (GAAP measure) to free cash flow (non-GAAP measure):

Millions	***2021***	*2020*	*2019*
Cash provided by operating activities	**$ 9,032**	$ 8,540	$ 8,609
Cash used in investing activities	**(2,709)**	(2,676)	(3,435)
Dividends paid	**(2,800)**	(2,626)	(2,598)
Free cash flow	**$ 3,523**	$ 3,238	$ 2,576

Table of Contents

2022 Outlook

- **Safety** – Operating a safe railroad benefits all our constituents: our employees, customers, shareholders, and the communities we serve. We will continue using a multi-faceted approach to safety utilizing technology, risk assessments, training, employee engagement, quality control, and targeted capital investments. As mentioned previously, our initiatives will be informed by recommendations identified in the third-party assessment of the effectiveness of our safety program. Consistent with these recommendations, we will continually evaluate and adjust deployment of Total Safety Culture, Courage to Care, COMMIT, and Peer to Peer throughout our operations, which allows us to identify and implement best practices for employee and operational safety. In addition, our Operating Practices Command Center will continue the implementation of our predictive technology and reduce variability by identifying causes of mainline service interruptions and develop solutions, in addition to, assisting employees with understanding policies, procedures, and best practices for handling trains. We will continue our efforts to utilize data to identify and mitigate risk, detect rail defects, improve or close crossings, and educate the public and law enforcement agencies about crossing safety through a combination of our own programs (including risk assessment strategies), industry programs, and local community activities across the network. We also are dedicated to maintaining a healthy workplace and continue monitoring the COVID case levels, modifying our policies as needed to protect employees and minimize the risk of workplace transmission.

- **Network Operations** – In 2022, we will continue transforming our railroad to increase reliability of our service product, reduce variability in network operations, and improve resource utilization. Further train length initiatives allow us to efficiently add incremental volume growth to our existing train network. We will continue to make capital investments to improve operational performance and efficiency. A more efficient network requires fewer locomotives, freight cars, and other resources.

- **Financial Expectations** – We expect volume to outpace industrial production in 2022 as the results of our business development efforts are bringing new customers to our railroad. In the current environment, we expect continued margin improvement driven by pricing in excess of inflation and ongoing efficiency initiatives, better leveraging our resources and improving our service product. We expect to generate strong cash flow from operating activities allowing us to continue our industry leading dividend payout ratio and strong share repurchase programs. Economic uncertainties remain in 2022 as COVID impacts linger and could have a material impact on our 2022 financial and operating results. Regardless of external factors, we will focus on efficiently managing operations; seeking new business opportunities; protecting our employees, customers, and communities; and providing excellent service to our customers.

- **Market Conditions** – While current forecasts for industrial production indicate continued economic growth, we expect uncertainties with COVID and the economy to continue in 2022. How governments and consumers react to the resurgence, mutation of the virus, and vaccine mandates could result in or contribute to customer disruptions, an elongated recovery period, constrained workforce availability, or a general economic downturn from current levels. Disruptions in our customers' supply chains caused by the pandemic or other factors may continue to impact our shipments. In addition, other factors such as changes in monetary policy may affect economic activity and demand for rail transportation; natural gas prices, weather conditions, and demand for other energy sources may impact the coal market; crude oil price spreads may drive demand for petroleum products and drilling materials; available truck capacity could impact our intermodal business; and international trade agreements could promote or hinder trade.

- **Fuel Prices** – Projections for crude oil and natural gas continue to fluctuate in the current environment. We again could see volatile fuel prices during the year, as they are sensitive to global and U.S. domestic demand, refining capacity, geopolitical events, weather conditions, and other factors. As prices fluctuate, there will be a timing impact on earnings, as our fuel surcharge programs trail increases or decreases in fuel price by approximately two months.

  Significant changes in fuel prices could have an impact on consumer discretionary spending, impacting demand for various consumer products we transport. Alternatively, those changes could have an inverse impact on commodities such as coal, petroleum products, and domestic drilling-related shipments.

- **Capital Plan** – In 2022, we expect our capital plan to be approximately $3.3 billion, up 10% from 2021 as we make investments to support our growth strategy. We will continue to harden our infrastructure, replace older assets, and improve the safety and resilience of the network. In addition, the plan includes targeted freight car acquisitions, investments in growth-related projects to drive more carloads to the network, certain ramps to efficiently handle volumes from new and existing intermodal customers, continuous modernization of our locomotive fleet, and projects intended to improve operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion in this Item 7 under Liquidity and Capital Resources – Capital Plan.)

RESULTS OF OPERATIONS

Operating Revenues

Millions	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Freight revenues	**$ 20,244**	$ 18,251	$ 20,243	**11 %**	(10)%
Other subsidiary revenues	**741**	743	880	**-**	(16)
Accessorial revenues	**752**	473	514	**59**	(8)
Other	**67**	66	71	**2**	(7)
Total	**$ 21,804**	$ 19,533	$ 21,708	**12 %**	(10)%

We generate freight revenues by transporting freight or other materials from our three commodity groups. Freight revenues vary with volume (carloads) and ARC. Changes in price, traffic mix, and fuel surcharges drive ARC. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied. We recognize freight revenues over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred.

Other subsidiary revenues (primarily logistics and commuter rail operations) are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Our freight revenues increased 11% year-over-year to $20.2 billion driven by a 4% increase in volume, higher fuel surcharge revenue, core pricing gains, and positive mix of traffic (for example, a relative increase in industrial shipments, which have a higher ARC). Volume increased in every key market segment compared to 2020 due to the recovery from the depressed economy brought on by the COVID pandemic in 2020. While the markets have rebounded from 2020, our 2021 volume levels are 4% below 2019 pre-pandemic levels.

Our fuel surcharge programs generated freight revenues of $1.7 billion and $1.0 billion in 2021 and 2020, respectively. Fuel surcharge revenue in 2021 increased $0.7 billion as a result of a 49% increase in fuel price and a 4% increase in carloadings, partially offset by the lag impact on fuel surcharge (it can generally take up to two months for changing fuel prices to affect fuel surcharges recoveries).

In 2021, other subsidiary revenues were flat with 2020 as the semiconductor shortage negatively impacting 2021 automotive production offset the recovery from other COVID related declines in 2020. Accessorial revenue increased in 2021 compared to 2020 driven by increased intermodal accessorial charges tied to global supply chain disruptions. Other revenue was essentially flat year-over-year.

[Table of Contents]

The following tables summarize the year-over-year changes in freight revenues, revenue carloads, and ARC by commodity type:

Freight Revenues *Millions*	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Grain & grain products	**$ 3,181**	$ 2,829	$ 2,776	**12 %**	2 %
Fertilizer	**697**	660	653	**6**	1
Food & refrigerated	**998**	937	1,008	**7**	(7)
Coal & renewables	**1,780**	1,534	2,092	**16**	(27)
Bulk	**6,656**	5,960	6,529	**12**	(9)
Industrial chemicals & plastics	**1,943**	1,845	1,885	**5**	(2)
Metals & minerals	**1,811**	1,580	2,042	**15**	(23)
Forest products	**1,357**	1,160	1,160	**17**	-
Energy & specialized markets	**2,212**	2,037	2,385	**9**	(15)
Industrial	**7,323**	6,622	7,472	**11**	(11)
Automotive	**1,761**	1,680	2,123	**5**	(21)
Intermodal	**4,504**	3,989	4,119	**13**	(3)
Premium	**6,265**	5,669	6,242	**11**	(9)
Total	**$ 20,244**	$ 18,251	$ 20,243	**11 %**	(10)%

Revenue Carloads *Thousands*	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Grain & grain products	**805**	745	708	**8 %**	5 %
Fertilizer	**201**	193	190	**4**	2
Food & refrigerated	**189**	185	192	**2**	(4)
Coal & renewables	**819**	797	997	**3**	(20)
Bulk	**2,014**	1,920	2,087	**5**	(8)
Industrial chemicals & plastics	**606**	587	611	**3**	(4)
Metals & minerals	**697**	646	744	**8**	(13)
Forest products	**250**	220	220	**14**	-
Energy & specialized markets	**559**	539	624	**4**	(14)
Industrial	**2,112**	1,992	2,199	**6**	(9)
Automotive	**701**	692	858	**1**	(19)
Intermodal [a]	**3,211**	3,149	3,202	**2**	(2)
Premium	**3,912**	3,841	4,060	**2**	(5)
Total	**8,038**	7,753	8,346	**4 %**	(7)%

Average Revenue per Car	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Grain & grain products	**$ 3,953**	$ 3,797	$ 3,919	**4 %**	(3)%
Fertilizer	**3,470**	3,427	3,448	**1**	(1)
Food & refrigerated	**5,279**	5,047	5,241	**5**	(4)
Coal & renewables	**2,173**	1,926	2,098	**13**	(8)
Bulk	**3,305**	3,104	3,128	**6**	(1)
Industrial chemicals & plastics	**3,207**	3,144	3,087	**2**	2

Metals & minerals	**2,598**	2,445	2,745	**6**	(11)
Forest products	**5,424**	5,269	5,264	**3**	-
Energy & specialized markets	**3,956**	3,780	3,821	**5**	(1)
Industrial	**3,467**	3,324	3,398	**4**	(2)
Automotive	**2,511**	2,427	2,474	**3**	(2)
Intermodal [a]	**1,403**	1,267	1,286	**11**	(1)
Premium	**1,601**	1,476	1,538	**8**	(4)
Average	**$ 2,519**	$ 2,354	$ 2,425	**7 %**	(3)%

[a] For intermodal shipments, each container or trailer equals one carload.

Bulk – Bulk includes shipments of grain and grain products, fertilizer, food and refrigerated goods, and coal and renew pricing gains, higher fuel surcharge revenue, and positive business mix. Despite weather disruptions in the first quarte higher natural gas prices. In addition, strength in the export potash market and recovery from the COVID pandemic th 2020 contributed to additional increases in volume.

Industrial – Industrial includes shipments of industrial chemicals and plastics, metals and minerals, forest products, anc increase in volume, core pricing gains, higher fuel surcharge, and positive mix of traffic. Strength from the pand which impacted the industrial chemicals and plastics and metals and minerals industries. Additionally, forest product sh

Premium – Premium includes shipments of finished automobiles, automotive parts, and merchandise in intermodal co to 2020, despite the weather disruptions in the first quarter of 2021, driven by higher fuel surcharges, core pricing gains than double the 79 thousand carloads in the same period in 2020 as North American manufacturing plants suspended the on-going shortage of semiconductors. Excluding the second quarter, automotive shipments are down 14% year-ov high demand strained port capacity, chassis availability, truck driver supply, and warehouse receiving capacity. De conditions, inventory restocking, contract wins, and continued strength of e-commerce and parcel shipments.

Mexico Business – Each of our commodity groups includes revenue from shipments to and from Mexico. Revenue from Mexico business was $2.4 billion in 2021, up 13% compared to 2020, driven by a 3% increase in volume and higher fuel surcharge revenue, core pricing gains, and positive mix of traffic. The volume increase was driven by the recovery from the 2020 pandemic and an increase in petroleum and grain shipments, partially offset by the impact of the global supply chain disruptions on intermodal shipments and the semiconductor shortage in the automotive industry.

Operating Expenses

Millions	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Compensation and benefits	**$ 4,158**	$ 3,993	$ 4,533	**4 %**	(12)%
Depreciation	**2,208**	2,210	2,216	**-**	-
Fuel	**2,049**	1,314	2,107	**56**	(38)
Purchased services and materials	**2,016**	1,962	2,254	**3**	(13)
Equipment and other rents	**859**	875	984	**(2)**	(11)
Other	**1,176**	1,345	1,060	**(13)**	27
Total	**$ 12,466**	$ 11,699	$ 13,154	**7 %**	(11)%

Operating expenses increased $767 million in 2021 compared to 2020 driven by higher fuel prices, volume-related c
compensation, and higher state and local taxes. Partially offsetting these increases compared to 2020 include a $278
2020, and lower severance costs. Full year results of 2021 and 2020 both include a reduction of expense for weather a

Compensation and Benefits – Compensation and benefits include wages, payroll taxes, health and welfare costs, pension costs, and incentive costs. In 2021, expenses increased 4% compared to 2020, due to volume related costs, inflation, 2020 management actions responding to the sharp decline in volume (temporary unpaid leave, salary reductions, and shop closures), incentive compensation, and higher costs due to weather and wildfire-related events. Partially offsetting these increases were productivity initiatives resulting in employee levels that declined 3% compared to 2020 despite a 4% volume increase, a 2020 one-time bonus payment for agreement employees who worked during the pandemic, and lower severance costs.

Depreciation – The majority of depreciation relates to road property, including rail, ties, ballast, and other track material. Depreciation expense was flat in 2021 compared to 2020.

Fuel – Fuel includes locomotive fuel and gasoline for highway and non-highway vehicles and heavy equipment. Locomotive diesel fuel prices, which averaged $2.23 per gallon (including taxes and transportation costs) in 2021, compared to $1.50 per gallon in 2020, increased expenses $668 million (excluding any impact from increased volume year-over-year). Gross ton-miles increased 6% driving higher fuel expense. Partially offsetting this increase was a 1% improvement to a record low fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles.

Purchased Services and Materials – Expense for purchased services and materials includes the costs of services purchased from outside contractors and other service providers (including equipment maintenance and contract expenses incurred by our subsidiaries for external transportation services); materials used to maintain the Railroad's lines, structures, and equipment; costs of operating facilities jointly used by UPRR and other railroads; transportation and lodging for train crew employees; trucking and contracting costs for intermodal containers; leased automobile maintenance expenses; and tools and supplies. Purchased services and materials increased 3% in 2021 compared to 2020 driven by inflation, higher professional services expense, volume-related costs associated with our intermodal business, higher costs due to weather and wildfire-related events, increased locomotive and freight car maintenance expense as we added resources to the network, and higher costs for transportation of train crews.

Equipment and Other Rents – Equipment and other rents expense primarily includes rental expense that the Railroad pays for freight cars owned by other railroads or private companies; freight car, intermodal, and locomotive leases; and office and other rent expenses, offset by equity income from certain equity method investments. Equipment and other rents expense decreased 2% compared to 2020 driven by lower rent on equipment in storage and higher equity income from our investment in TTX Company, partially offset by increased freight car rent expense due to volume increases and slower freight car velocity.

Other – Other expenses include state and local taxes, freight, equipment and property damage, utilities, insurance, personal injury, environmental, employee travel, telephone and cellular, computer software, bad debt, and other general expenses. Other expenses decreased 13% in 2021 compared to 2020 as a result of a $278 million non-cash impairment charge related to our Brazos yard investment in 2020, lower write-offs of cancelled in-progress capital projects, 2020 lease impairments, and higher equity income. Partially offsetting these decreases were increased casualty expenses, including personal injury, damaged freight, and environmental, and higher state and local taxes. Both periods in 2021 and 2020 included a reduction of expense for weather and wildfire-related insurance reimbursements, $6 million and $25 million, respectively.

Non-Operating Items

Millions	***2021***	*2020*	*2019*	***% Change 2021 v 2020***	*% Change 2020 v 2019*
Other income, net	**$ 297**	$ 287	$ 243	**3 %**	18 %
Interest expense	**(1,157)**	(1,141)	(1,050)	**1**	9
Income tax expense	**(1,955)**	(1,631)	(1,828)	**20**	(11)

Other Income, net – Other income increased in 2021 compared to 2020 due to a $36 million gain from the sale of an investment in a technology company, partially offset by lower real estate sale gains. Real estate sales in 2021 included a $50 million gain from a property sale to the Colorado Department of Transportation, while 2020 included a $69 million gain from a land and permanent easement sale to the Illinois State Toll Highway Authority.

Interest Expense – Interest expense increased in 2021 compared to 2020 due to an increased weighted-average debt level of $28.3 billion in 2021 from $27.9 billion in 2020. The effective interest rate was 4.1% for both periods.

Income Taxes – Income tax expense increased in 2021 compared to 2020 due to higher pre-tax income. Our effective tax rates for 2021 and 2020 were 23.1% and 23.4%, respectively.

OTHER OPERATING/PERFORMANCE AND FINANCIAL STATISTICS

We report a number of key performance measures weekly to the STB. We provide this data on our website at www.up.com/investor/aar-stb_reports/index.htm.

Operating/Performance Statistics

Management continuously measures these key operating metrics to evaluate our operational efficiency and asset utilization in striving to provide a consistent, reliable service product to our customers.

Railroad performance measures are included in the table below:

	2021	*2020*	*2019*	***% Change 2021 v 2020***		*% Change 2020 v 2019*	
Gross ton-miles (GTMs) (billions)	**817.9**	771.8	846.6	**6**	**%**	(9)	%
Revenue ton-miles (billions)	**411.3**	385.0	423.4	**7**		(9)	
Freight car velocity (daily miles per car) [a]	**203**	221	209	**(8)**		6	
Average train speed (miles per hour) [b]	**24.6**	25.9	25.1	**(5)**		3	
Average terminal dwell time (hours) [b]	**23.7**	22.7	24.8	**4**		(8)	
Locomotive productivity (GTMs per horsepower day)	**133**	137	120	**(3)**		14	
Train length (feet)	**9,334**	8,798	7,747	**6**		14	
Intermodal car trip plan compliance (%)	**73**	81	75	**(8)**	**pts**	6	pts
Manifest/Automotive car trip plan compliance (%)	**63**	71	65	**(8)**	**pts**	6	pts
Workforce productivity (car miles per employee)	**1,038**	947	857	**10**		11	
Total employees (average)	**29,905**	30,960	37,483	**(3)**		(17)	
Operating ratio	**57.2**	59.9	60.6	**(2.7)**	**pts**	(0.7)	pts

[a] 2019 has been recast to conform to the current year presentation which reflects minor refinements.

[b] As reported to the STB.

Gross and Revenue Ton-Miles – Gross ton-miles are calculated by multiplying the weight of loaded and empty freight cars by the number of miles hauled. Revenue ton-miles are calculated by multiplying the weight of freight by the number of tariff miles. In 2021, gross ton-miles and revenue ton-miles increased 6% and 7%, respectively, compared to 2020, driven by a 4% increase in carloadings. Changes in commodity mix drove the variance in year-over-year increases between gross ton-miles, revenue ton-miles, and carloads (smaller increases in our intermodal and automotive shipments, which are generally lighter, coupled with higher increases in grain and industrial shipments, which are generally heavier).

Freight Car Velocity – Freight car velocity measures the average daily miles per car on our network. The two key drivers of this metric are the speed of the train between terminals (average train speed) and the time a rail car spends at the terminals (average terminal dwell time). Train speed slowed and terminal dwell increased in 2021 compared to the same periods in 2020 as the network handled additional volume and was impacted by weather and wildfire-related challenges, bridge outages caused by the California wildfires, other incidents causing delays on the network, and global supply chain disruptions. Continued implementation of our operating plan helped to partially offset these impacts.

Locomotive Productivity – Locomotive productivity is gross ton-miles per average daily locomotive horsepower. Locomotive productivity decreased 3% in 2021 compared to 2020 driven by the increased active fleet needed to handle the 4% volume increase as well as manage network disruptions, partially offset by transportation plan changes.

Train Length – Train length is the average maximum train length on a route measured in feet. Our train length increased 6% compared to 2020 as a result of blending service products and transportation plan changes designed to improve overall operational efficiency. However, in the second half of the year, train length declined slightly from the first half of 2021 due to California wildfire bridge outage reroutes in the third quarter and operational challenges in the fourth quarter.

Car Trip Plan Compliance – Car trip plan compliance is the percentage of cars delivered on time in accordance with our original trip plan. Our network trip plan compliance is broken into the intermodal and manifest/automotive products. Intermodal trip plan compliance deteriorated in 2021 compared to 2020 primarily due to global supply chain disruptions. Manifest/automotive trip plan compliance deteriorated in 2021 compared to 2020 as our network slowed because of the outages and incidents described above that required increased resource allocation and rebalancing.

Workforce Productivity – Workforce productivity is average daily car miles per employee. Workforce productivity improved 10%, reaching an all-time record as employee counts were down 3% compared to 2020, while average daily car miles increased 6%. Productivity initiatives and a smaller capital workforce offset higher train and engine employee levels due to weather and wildfire-related challenges, network disruptions, and reduced crew utilization keeping total employee levels lower than 2020.

Operating Ratio – Operating ratio is our operating expenses reflected as a percentage of operating revenue. Our operating ratio of 57.2% was an all-time record and improved 2.7 points compared to 2020 mainly driven by a 2020 one-time impairment, core pricing gains, productivity initiatives, and positive mix of traffic, which were partially offset by higher fuel prices, inflation, and other cost increases.

Table of Contents

Return on Average Common Shareholders' Equity

Millions, Except Percentages	***2021***	*2020*	*2019*
Net income	**$ 6,523**	$ 5,349	$ 5,919
Average equity	**$ 15,560**	$ 17,543	$ 19,276
Return on average common shareholders' equity	**41.9 %**	30.5 %	30.7 %

Return on Invested Capital as Adjusted (ROIC)

Millions, Except Percentages	***2021***	*2020*	*2019*
Net income	**$ 6,523**	$ 5,349	$ 5,919
Interest expense	**1,157**	1,141	1,050
Interest on average operating lease liabilities	**54**	64	76
Taxes on interest	**(280)**	(282)	(266)
Net operating profit after taxes as adjusted	**$ 7,454**	$ 6,272	$ 6,779
Average equity	**$ 15,560**	$ 17,543	$ 19,276
Average debt	**28,229**	25,965	23,796
Average operating lease liabilities	**1,682**	1,719	2,052
Average invested capital as adjusted	**$ 45,471**	$ 45,227	$ 45,124
Return on Invested Capital as Adjusted	**16.4 %**	13.9 %	15.0 %

ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. In addition, we currently use ROIC as a performance criterion in determining certain elements of equity compensation for our executives. ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is return on average common shareholders' equity. The tables above provide reconciliations from return on average common shareholders' equity to ROIC. At December 31, 2021, 2020, and 2019, the incremental borrowing rate on operating leases was 3.2%, 3.7%, and 3.7%, respectively.

Adjusted Debt / Adjusted EBITDA

Millions, Except Ratios for the Twelve Months Ended	***Dec. 31, 2021***	*Dec. 31, 2020*	*Dec. 31, 2019*
Net income	**$ 6,523**	$ 5,349	$ 5,919
Add:			
Income tax expense/(benefit)	**1,955**	1,631	1,828
Depreciation	**2,208**	2,210	2,216
Interest expense	**1,157**	1,141	1,050
EBITDA	**$ 11,843**	$ 10,331	$ 11,013
Adjustments:			
Other income, net	**(297)**	(287)	(243)
Interest on operating lease liabilities	**56**	59	68
Adjusted EBITDA	**$ 11,602**	$ 10,103	$ 10,838
Debt	**$ 29,729**	$ 26,729	$ 25,200
Operating lease liabilities	**1,759**	1,604	1,833
Unfunded/(funded) pension and other postretirement benefits, net of tax cost/(benefit) of ($21), $195, and $124	**(72)**	637	400
Adjusted debt	**$ 31,416**	$ 28,970	$ 27,433
Adjusted debt / Adjusted EBITDA	**2.7**	2.9	2.5

Adjusted debt to adjusted EBITDA (earnings before interest, taxes, depreciation, amortization, and adjustments for other income and interest on present value of operating leases) is considered a non-

GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the Company's ability to sustain given debt levels (including leases) with the cash generated from operations. In addition, a comparable measure is used by rating agencies when reviewing the Company's credit rating. Adjusted debt to adjusted EBITDA should be considered in addition to, rather than as a substitute for, net income. The table above provides reconciliations from net income to adjusted debt to adjusted EBITDA. At December 31, 2021, 2020, and 2019, the incremental borrowing rate on operating leases was 3.2%, 3.7% and 3.7%, respectively.

LIQUIDITY AND CAPITAL RESOURCES

We are continually evaluating our financial condition and liquidity. We analyze a wide range of economic scenarios and the impact on our ability to generate cash. These analyses inform our liquidity plans and activities outlined below and indicate we have sufficient borrowing capacity to sustain an extended period of lower volumes.

At December 31, 2021, we had a working capital deficit due to upcoming debt maturities. At December 31, 2020, we had a surplus due to an increased cash balance held due to the uncertainty related to COVID. It is not unusual for us to have a working capital deficit, and we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility and, when necessary, access the capital markets to meet any foreseeable cash requirements.

During the year, we generated $9.0 billion of cash from operating activities, completed a $1.7 billion debt exchange, and issued $3.5 billion of long-term debt. We have been, and we expect to continue to be, in compliance with our debt covenants. We increased the dividend twice during 2021 paying out $2.8 billion and repurchased shares totaling $7.3 billion, including the completion of our $2 billion accelerated share repurchase programs entered into on May 25, 2021.

Our principal sources of liquidity include cash, cash equivalents, our Receivables Facility, our revolving credit facility, as well as the availability of commercial paper and other sources of financing through the capital markets. On December 31, 2021, we had $960 million of cash and cash equivalents, $2.0 billion of committed credit available under our revolving credit facility, and up to $500 million undrawn on the Receivables Facility. As of December 31, 2021, none of the revolving credit facility was drawn, and we did not draw on our revolving credit facility at any time during 2021. At December 31, 2021, we had $300 million of the Receivables Facility drawn, $400 million of commercial paper, and a $100 million term loan outstanding. Our access to the Receivables Facility may be reduced or restricted if our bond ratings fall to certain levels below investment grade. If our bond rating were to deteriorate, it could have an adverse impact on our liquidity. Access to commercial paper as well as other capital market financing is dependent on market conditions. Deterioration of our operating results or financial condition due to internal or external factors could negatively impact our ability to access capital markets as a source of liquidity. Access to liquidity through the capital markets is also dependent on our financial stability. We expect that we will continue to have access to liquidity through any or all the following sources or activities: (i) increasing the utilization of our Receivables Facility, (ii) issuing commercial paper, (iii) entering into bank loans, outside of our revolving credit facility, or (iv) issuing bonds or other debt securities to public or private investors based on our assessment of the current condition of the credit markets. The Company's $2.0 billion revolving credit facility is intended to support the issuance of commercial paper by UPC and also serves as an additional source of liquidity to fund short-term needs. The Company currently does not intend to make any borrowings under this facility.

As described in the notes to the Consolidated Financial Statements and as referenced in the table below, we have contractual obligations that may affect our financial condition. Based on our assessment of the underlying provisions and circumstances of our contractual obligations, other than the risks that we and other similarly situated companies face with respect to the condition of the capital markets (as described in Item 1A of Part II of this report), there is no known trend, demand, commitment, event, or uncertainty that is reasonably likely to occur that would have a material adverse effect on our consolidated results of operations, financial condition, or liquidity. In addition, our commercial obligations, financings, and commitments are customary transactions that are like those of other comparable corporations, particularly within the transportation industry.

The following table identifies material obligations as of December 31, 2021:

		Payments Due by December 31,					
Contractual Obligations							*After*
Millions	*Total*	*2022*	*2023*	*2024*	*2025*	*2026*	*2026*
Debt [a]	$ 53,942	$ 3,172	$ 2,337	$ 2,356	$ 2,336	$ 1,875	$ 41,866
Purchase obligations [b]	2,555	753	446	368	335	256	397
Operating leases [c]	1,966	333	293	285	285	215	555
Other post retirement benefits [d]	400	45	44	40	39	39	193

Finance lease obligations [e]	378	107	81	68	45	36	41
Total contractual obligations	$ 59,241	$ 4,410	$ 3,201	$ 3,117	$ 3,040	$ 2,421	$ 43,052

[a] *Excludes finance lease obligations of $336 million as well as unamortized discount and deferred issuance costs of ($1,763) million. Includes an interest component of $22,786 million.*

[b] *Purchase obligations include locomotive maintenance contracts; purchase commitments for fuel purchases, ties, ballast, and rail; and agreements to purchase other goods and services.*

[c] *Includes leases for locomotives, freight cars, other equipment, and real estate. Includes an interest component of $207 million.*

[d] *Includes estimated other post retirement, medical, and life insurance payments, and payments made under the unfunded pension plan for the next ten years.*

[e] *Represents total obligations, including interest component of $42 million.*

LIBOR Transition – See Note 14 to the Financial Statements and Supplementary Data, Item 8. The use of an alternative rate or benchmark may negatively impact the terms of our facilities, including in the form of an adverse effect on interest rates and higher borrowing costs and interest expense.

Cash Flows *Millions*	***2021***	*2020*	*2019*
Cash provided by operating activities	**$ 9,032**	$ 8,540	$ 8,609
Cash used in investing activities	**(2,709)**	(2,676)	(3,435)
Cash used in financing activities	**(7,158)**	(4,902)	(5,646)
Net change in cash, cash equivalents, and restricted cash	**$ (835)**	$ 962	$ (472)

Operating Activities

Cash provided by operating activities increased in 2021 compared to 2020 due primarily to an increase in net income, partially offset by higher receivables and the partial payment of the deferred 2020 employment tax that was allowed by a provision in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act).

Cash Flow Conversion – Cash flow conversion is defined as cash provided by operating activities less cash used in capital investments as a ratio of net income.

Cash flow conversion rate is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe cash flow conversion rate is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financing. Cash flow conversion rate should be considered in addition to, rather than as a substitute for, cash provided by operating activities.

The following table reconciles cash provided by operating activities (GAAP measure) to cash flow conversion rate (non-GAAP measure):

Millions, For the Year Ended December 31,	***2021***	*2020*	*2019*
Cash provided by operating activities	**$ 9,032**	$ 8,540	$ 8,609
Cash used in capital investments	**(2,936)**	(2,927)	(3,453)
Total (a)	**6,096**	5,613	5,156
Net income (b)	**6,523**	5,349	5,919
Cash flow conversion rate (a/b)	**93 %**	105 %	87 %

Investing Activities

Cash used in investing activities in 2021 increased compared to 2020 primarily driven by increased capital investment in road infrastructure replacements.

The following tables detail cash capital investments and track statistics for the years ended December 31:

Millions	***2021***	*2020*	*2019*
Ties	**$ 443**	$ 507	$ 427
Rail and other track material	**507**	471	561
Ballast	**215**	225	271
Other [a]	**700**	584	694
Total road infrastructure replacements [b]	**1,865**	1,787	1,953
Line expansion and other capacity projects	**284**	332	357
Commercial facilities	**243**	171	183
Total capacity and commercial facilities	**527**	503	540
Locomotives and freight cars [c]	**322**	269	610
Positive train control	**84**	79	95
Technology and other	**138**	289	255
Total cash capital investments	**$ 2,936**	$ 2,927	$ 3,453

[a] Other includes bridges and tunnels, signals, other road assets, and road work equipment.

[b] Includes weather and wildfire-related damages to our property of $60 million, $40 million, and $113 million in 2021, 2020, and 2019, respectively.

[c] Locomotives and freight cars include early lease buyouts of $34 million, $38 million, and $290 million in 2021, 2020, and 2019, respectively.

	2021	*2020*	*2019*
Track miles of rail replaced	**502**	468	534
Track miles of rail capacity expansion	**70**	83	55
New ties installed (thousands)	**4,058**	4,671	3,475
Miles of track surfaced	**10,441**	10,414	7,741

Capital Plan – In 2022, we expect our capital plan to be approximately $3.3 billion, up 10% compared to 2021. We will continue to harden our infrastructure, replace older assets, and improve the safety and resiliency of the network. In addition, the plan includes targeted freight car acquisitions, investments in growth-related projects to drive more carloads to the network, certain ramps to efficiently handle volumes from new and existing intermodal customers, continuous modernization of our locomotive fleet, and projects intended to improve operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments.

Financing Activities

Cash used in financing activities increased in 2021 compared to 2020 driven by increased share repurchases.

See Note 14 to the Financial Statements and Supplementary Data, Item 8, for a description of all our outstanding financing arrangements and significant new borrowings, and Note 18 to the Financial Statements and Supplementary Data, Item 8, for a description of our share repurchase programs.

OTHER MATTERS

Inflation – For capital-intensive companies, inflation significantly increases asset replacement costs for long-lived assets. As a result, assuming that we replace all operating assets at current price levels, depreciation charges (on an inflation-adjusted basis) would be substantially greater than historically reported amounts.

Sensitivity Analyses – The sensitivity analyses that follow illustrate the economic effect that hypothetical changes in interest and tax rates could have on our results of operations and financial condition. These hypothetical changes do not consider other factors that could impact actual results.

Interest Rates – At December 31, 2021, we had variable-rate debt representing approximately 2.7% of our total debt. If variable interest rates average one percentage point higher in 2022 than our December 31, 2021, variable rate, which was approximately 0.7%, our interest expense would increase by approximately $8.0 million. This amount was determined by considering the impact of the hypothetical interest rate on the balances of our variable-rate debt at December 31, 2021.

Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a hypothetical one percentage point decrease in interest rates as of December 31, 2021, and amounts to an increase of approximately $4.9 billion to the fair value of our debt at December 31, 2021. We estimated the fair values of our fixed-rate debt by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates.

Tax Rates – Our deferred tax assets and liabilities are measured based on current tax law. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity. For example, a permanent 1% increase in future income tax rates would increase our deferred tax liability by approximately $500 million. Similarly, a permanent 1% decrease in future income tax rates would decrease our deferred tax liability by approximately $500 million.

Accounting Pronouncements – See Note 3 to the Financial Statements and Supplementary Data, Item 8.

Asserted and Unasserted Claims – See Note 17 to the Financial Statements and Supplementary Data, Item 8.

Indemnities – See Note 17 to the Financial Statements and Supplementary Data, Item 8.

Climate Change – Although climate change could have an adverse impact on our operations and financial performance (see Risk Factors under Item 1A of this report), we are currently unable to predict the manner or severity of such impact. In December 2021, we released our initial Climate Action Plan, which outlines the steps we are taking to reduce our environmental impact. This plan aligns with our corporate strategy: Serve (improve operational efficiency and minimize fuel consumption), Grow (offer sustainable supply chain solutions), Win (decarbonize our footprint and the environment), Together (engage our stakeholders and align interests). We continue to take steps and explore opportunities to reduce our operational impact on the environment, including increased usage of renewable fuels, investments in new technologies, using training programs and technology to reduce fuel consumption, and changing our operations to increase fuel efficiency (see "Sustainable Future" in the Operations section in Item 1 of this report).

CRITICAL ACCOUNTING ESTIMATES

Our Consolidated Financial Statements have been prepared in accordance with GAAP. The preparation of these financial statements requires estimation and judgment that affect the reported amounts of revenues, expenses, assets, and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The following critical accounting estimates are a subset of our significant accounting policies described in Note 2 to the Financial Statements and Supplementary Data, Item 8. These critical accounting estimates affect significant areas of our financial statements and involve judgment and estimates. If these estimates differ significantly from actual results, the impact on our Consolidated Financial Statements may be material.

Table of Contents

Personal Injury – See Note 17 to the Financial Statements and Supplementary Data, Item 8, and "*We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures"* in the Risk Factors, Item 1A.

Our personal injury liability is subject to uncertainty due to unasserted claims, timing and outcome of claims, and evolving trends in litigation. There were no material changes to the assumptions used in the latest actuarial analysis.

Our personal injury liability balance and claims activity was as follows:

	2021	*2020*	*2019*
Ending liability balance at December 31 (millions)	$ **325**	$ 270	$ 265
Open claims, beginning balance	**1,897**	1,985	2,025
New claims	**2,719**	2,577	3,025
Settled or dismissed claims	**(2,589)**	(2,665)	(3,065)
Open claims, ending balance at December 31	**2,027**	1,897	1,985

Environmental Costs – See Note 17 to the Financial Statements and Supplementary Data, Item 8, "*We Are Subject to Significant Environmental Laws and Regulations"* in the Risk Factors, Item 1A, and Environmental Matters in the Legal Proceedings, Item 3.

Our environmental liability is subject to several factors such as type of remediation, nature and volume of contaminate, and number and financial viability of other potentially responsible parties, as well as uncertainty due to unknown alleged contamination, evolving trends in remediation techniques and final remedies, and changes in laws and regulations.

Our environmental liability balance and site activity was as follows:

	2021	*2020*	*2019*
Ending liability balance at December 31 (millions)	$ **243**	$ 233	$ 227
Open sites, beginning balance	**373**	360	334
New sites	**105**	96	114
Closed sites	**(102)**	(83)	(88)
Open sites, ending balance at December 31	**376**	373	360

Property and Depreciation – See Note 11 to the Financial Statements and Supplementary Data, Item 8.

Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property.

Estimated service lives of depreciable railroad property may vary over time due to changes in physical use, technology, asset strategies, and other factors that will have an impact on the retirement profiles of our assets. We are not aware of any specific factors that are reasonably likely to significantly change the estimated service lives of our assets. Actual use and retirement of our assets may vary from our current estimates, which would impact the amount of depreciation expense recognized in future periods.

Changes in estimated useful lives of our assets due to the results of our depreciation studies could significantly impact future periods' depreciation expense and have a material impact on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by approximately $69 million. If the estimated useful lives of all depreciable assets were decreased by one year, annual depreciation expense would increase by approximately $73 million. We are projecting an increase in our depreciation expense by approximately 2% in 2022 versus 2021. This is driven by an increase in our projected depreciable asset base.

During the last three fiscal years, no gains or losses were recognized due to the retirement of depreciable railroad properties.

Pension Plans – See Note 5 to the Financial Statements and Supplementary Data, Item 8.

The critical assumptions used to measure pension obligations and expenses are the discount rates and expected rate of return on pension assets.

We evaluate our critical assumptions at least annually, and selected assumptions are based on the following factors:

- We measure the service cost and interest cost components of our net periodic pension cost by using individual spot rates matched with separate cash flows for each future year. Discount rates are based on a Mercer yield curve of high-quality corporate bonds (rated AA by a recognized rating agency).
- Expected return on plan assets is based on our asset allocation mix and our historical return, taking into consideration current and expected market conditions.

The following tables present the key assumptions used to measure net periodic pension cost/benefit for 2022 and the estimated impact on 2022 net periodic pension cost/benefit relative to a change in those assumptions:

Assumptions	
Discount rate for benefit obligations	2.80 %
Discount rate for interest on benefit obligations	2.41 %
Discount rate for service cost	2.91 %
Discount rate for interest on service cost	2.86 %
Expected return on plan assets	6.25 %

Sensitivities	*Increase in Expense*
Millions	*Pension*
0.25% decrease in discount rates	$ 16
0.25% decrease in expected return on plan assets	$ 11

The following table presents the net periodic pension cost for the years ended December 31:

Millions	*Est. 2022*	*2021*	*2020*	*2019*
Net periodic pension cost	$ 23	$ 85	$ 50	$ 34

CAUTIONARY INFORMATION

Certain statements in this report, and statements in other reports or information filed or to be filed with the SEC (as well as information included in oral statements or other written statements made or to be made by us), are, or will be, forward-looking statements as defined by the Securities Act of 1933 and the Securities Exchange Act of 1934. These forward-looking statements and information include, without limitation, statements in the Chairman’s letter preceding Part I; statements regarding planned capital expenditures under the caption “2022 Capital Plan” in Item 2 of Part I; and statements and information set forth under the captions “2022 Outlook”; “Liquidity and Capital Resources” in Item 7 of Part II regarding our capital plan, share repurchase programs, contractual obligations, "Pension Benefits", and "Other Matters" in this Item 7 of Part II. Forward-looking statements and information also include any other statements or information in this report (including information incorporated herein by reference) regarding: potential impacts of the COVID pandemic on our business operations, financial results, liquidity, and financial position, and on the world economy (including our customers and supply chains), including as a result of fluctuations in volume and carloadings; closing of customer manufacturing, distribution or production facilities; expectations as to operational or service improvements; expectations regarding the effectiveness of steps taken or to be taken to improve operations, service, infrastructure improvements, and transportation plan modifications (including those discussed in our Climate Change Plan); expectations as to cost savings, revenue growth, and earnings; the time by which goals, targets, or objectives will be achieved; projections, predictions, expectations, estimates, or forecasts as to our business, financial, and operational results, future economic performance, and general economic conditions; proposed new products and services; estimates and expectations regarding tax matters; expectations that claims, litigation, environmental costs, commitments, contingent liabilities, labor negotiations or agreements, cyber-attacks or other matters will not have a material adverse effect on our consolidated results of operations, financial condition, or liquidity and any other similar expressions concerning matters that are not historical facts. Forward-looking statements may be identified by their use of forward-looking terminology, such as “believes,” “expects,” “may,” “should,” “would,” “will,” “intends,” “plans,” “estimates,” “anticipates,” “projects” and similar words, phrases, or expressions.

Forward-looking statements should not be read as a guarantee of future performance, results or outcomes, and will not necessarily be accurate indications of the times that, or by which, such performance, results or outcomes will be achieved. Forward-looking statements and information are subject to risks and uncertainties, including the impact of the COVID pandemic and responses by governments, businesses, and individuals, that could cause actual performance or results to differ materially from those expressed in the statements and information. Forward-looking statements and information reflect the good faith consideration by management of currently available information, and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances that management has little or no influence or control, and many of these risks and uncertainties are currently amplified by and may continue to be amplified by, or in the future may be amplified by, the COVID pandemic. The Risk Factors in Item 1A of this report could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in any forward-looking statements or information. To the extent circumstances require or we deem it otherwise necessary, we will update or amend these risk factors in a Form 10-Q, Form 8-K, or subsequent Form 10-K. All forward-looking statements are qualified by, and should be read in conjunction with, these Risk Factors.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions, or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information concerning market risk sensitive instruments is set forth under Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Matters, Item 7.

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Table of Contents

Item 8. Financial Statements and Supplementary Data

Index to Consolidated Financial Statements **Page**

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Union Pacific Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 4, 2022, expressed an unqualified opinion on the Corporation's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Capitalization of Properties — Refer to Notes 2 and 11 to the financial statements

Critical Audit Matter Description

The Corporation's operations are highly capital intensive and their large network of assets turns over on a continuous basis. Each year, the Corporation develops a capital program for both the replacement of assets and for the acquisition or construction of new assets. In determining whether costs should be capitalized, the Corporation exercises significant judgment in determining whether expenditures meet the applicable minimum units of property criteria and extend the useful life, improve the safety of operations, or improve the operating efficiency of existing assets. The Corporation capitalizes all costs of capital projects necessary to make assets ready for their intended use and because a portion of the Corporation's assets are self-constructed, management also exercises significant judgment in determining the amount of material, labor, work equipment, and indirect costs that qualify for capitalization. Properties, net were $54,871 million as of December 31, 2021 and, during 2021, the Corporation's capital investments were $2.9 billion.

We identified the capitalization of property as a critical audit matter because of the significant judgment exercised by management in determining whether costs meet the criteria for capitalization. This, in turn, required a high degree of auditor judgment when performing audit procedures to evaluate whether the criteria to capitalize costs were met and to evaluate sufficiency of audit evidence to support management's conclusions.

How the Critical Audit Matter Was Addressed in the Audit

Our procedures related to capitalization of property included the following, among others:

- We tested the effectiveness of controls over the Corporation's determination of whether costs related to the Corporation's capital program should be capitalized or expensed.

- We evaluated the Corporation's capitalization policy in accordance with accounting principles generally accepted in the United States of America.

- For a selection of capital projects, we performed the following:

  - Obtained the Corporation's evaluation of each project and determined whether the amount of costs to be capitalized met the criteria for capitalization as outlined within the Corporation's policy by unit of property.

  - Obtained supporting documentation that the project met the applicable minimum units of property criteria and was approved, and evaluated whether the project extended the useful life of an existing asset, improved the safety of operations, or improved the operating efficiency of existing assets.

- For a selection of capitalized costs during the year, we performed the following:

  - Evaluated whether the individual cost selected met the criteria for capitalization.

  - Evaluated whether the selection was accurately recorded at the appropriate amount based on the evidence obtained.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 4, 2022

We have served as the Corporation's auditor since 1967.

CONSOLIDATED STATEMENTS OF INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, Except Per Share Amounts, for the Years Ended December 31,	***2021***	*2020*	*2019*
Operating revenues:			
Freight revenues	**$ 20,244**	$ 18,251	$ 20,243
Other revenues	**1,560**	1,282	1,465
Total operating revenues	**21,804**	19,533	21,708
Operating expenses:			
Compensation and benefits	**4,158**	3,993	4,533
Depreciation	**2,208**	2,210	2,216
Fuel	**2,049**	1,314	2,107
Purchased services and materials	**2,016**	1,962	2,254
Equipment and other rents	**859**	875	984
Other	**1,176**	1,345	1,060
Total operating expenses	**12,466**	11,699	13,154
Operating income	**9,338**	7,834	8,554
Other income, net (Note 6)	**297**	287	243
Interest expense	**(1,157)**	(1,141)	(1,050)
Income before income taxes	**8,478**	6,980	7,747
Income tax expense (Note 7)	**(1,955)**	(1,631)	(1,828)
Net income	**$ 6,523**	$ 5,349	$ 5,919
Share and Per Share (Note 8):			
Earnings per share - basic	**$ 9.98**	$ 7.90	$ 8.41
Earnings per share - diluted	**$ 9.95**	$ 7.88	$ 8.38
Weighted average number of shares - basic	**653.8**	677.3	703.5
Weighted average number of shares - diluted	**655.4**	679.1	706.1

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2021***	*2020*	*2019*
Net income	**$ 6,523**	$ 5,349	$ 5,919
Other comprehensive income/(loss):			
Defined benefit plans	**723**	(231)	42
Foreign currency translation	**(44)**	(6)	17
Total other comprehensive income/(loss) [a]	**679**	(237)	59
Comprehensive income	**$ 7,202**	$ 5,112	$ 5,978

[a] Net of deferred taxes of ($237) million, $75 million, and ($15) million during 2021, 2020, and 2019, respectively.

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

Union Pacific Corporation and Subsidiary Companies

Millions, Except Share and Per Share Amounts as of December 31,	***2021***	*2020*
Assets		
Current assets:		
Cash and cash equivalents	**$ 960**	$ 1,799
Short-term investments (Note 13)	**46**	60
Accounts receivable, net (Note 10)	**1,722**	1,505
Materials and supplies	**621**	638
Other current assets	**202**	212
Total current assets	**3,551**	4,214
Investments	**2,241**	2,164
Properties, net (Note 11)	**54,871**	54,161
Operating lease assets (Note 16)	**1,787**	1,610
Other assets	**1,075**	249
Total assets	**$ 63,525**	$ 62,398
Liabilities and Common Shareholders' Equity		
Current liabilities:		
Accounts payable and other current liabilities (Note 12)	**$ 3,578**	$ 3,104
Debt due within one year (Note 14)	**2,166**	1,069
Total current liabilities	**5,744**	4,173
Debt due after one year (Note 14)	**27,563**	25,660
Operating lease liabilities (Note 16)	**1,429**	1,283
Deferred income taxes (Note 7)	**12,675**	12,247
Other long-term liabilities	**1,953**	2,077
Commitments and contingencies (Note 17)		
Total liabilities	**49,364**	45,440
Common shareholders' equity:		
Common shares, $2.50 par value, 1,400,000,000 authorized; 1,112,440,400 and 1,112,227,784 issued; 638,841,656 and 671,351,360 outstanding, respectively	**2,781**	2,781
Paid-in-surplus	**4,979**	4,864
Retained earnings	**55,049**	51,326
Treasury stock	**(47,734)**	(40,420)
Accumulated other comprehensive loss (Note 9)	**(914)**	(1,593)
Total common shareholders' equity	**14,161**	16,958
Total liabilities and common shareholders' equity	**$ 63,525**	$ 62,398

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2021***	*2020*	*2019*
Operating Activities			
Net income	**$ 6,523**	$ 5,349	$ 5,919
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation	**2,208**	2,210	2,216
Deferred and other income taxes	**154**	340	566
Gain on non-operating asset dispositions	**(98)**	(115)	(20)
Other operating activities, net	**42**	490	98
Changes in current assets and liabilities:			
Accounts receivable, net	**(217)**	90	160
Materials and supplies	**17**	113	(9)
Other current assets	**31**	(34)	87
Accounts payable and other current liabilities	**184**	(73)	(179)
Income and other taxes	**188**	170	(229)
Cash provided by operating activities	**9,032**	8,540	8,609
Investing Activities			
Capital investments	**(2,936)**	(2,927)	(3,453)
Proceeds from asset sales	**178**	149	74
Maturities of short-term investments (Note 13)	**94**	141	130
Purchases of short-term investments (Note 13)	**(70)**	(136)	(115)
Other investing activities, net	**25**	97	(71)
Cash used in investing activities	**(2,709)**	(2,676)	(3,435)
Financing Activities			
Share repurchase programs (Note 18)	**(7,291)**	(3,705)	(5,804)
Debt issued (Note 14)	**4,201**	4,004	3,986
Dividends paid	**(2,800)**	(2,626)	(2,598)
Debt repaid	**(1,299)**	(2,053)	(817)
Net issued/(paid) commercial paper (Note 14)	**325**	(127)	(6)
Debt exchange (Note 14)	**(270)**	(328)	(387)
Other financing activities, net	**(24)**	(67)	(20)
Cash used in financing activities	**(7,158)**	(4,902)	(5,646)
Net change in cash, cash equivalents, and restricted cash	**(835)**	962	(472)
Cash, cash equivalents, and restricted cash at beginning of year	**1,818**	856	1,328
Cash, cash equivalents, and restricted cash at end of year	**$ 983**	$ 1,818	$ 856
Supplemental Cash Flow Information			
Non-cash investing and financing activities:			
Term loan renewals (Note 14)	**$ 100**	$ 250	$ 250
Capital investments accrued but not yet paid	**263**	166	224
Locomotives sold for material credits	**-**	-	18
Cash paid during the year for:			
Income taxes, net of refunds	**$ (1,658)**	$ (1,214)	$ (1,382)
Interest, net of amounts capitalized	**(1,087)**	(1,050)	(1,033)

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN COMMON SHAREHOLDERS' EQUITY

Union Pacific Corporation and Subsidiary Companies

Millions	*Common Shares*	*Treasury Shares*	*Common Shares*	*Paid-in-Surplus*	*Retained Earnings*	*Treasury Stock*	*AOCI [a]*	*Total*
Balance at January 1, 2019	1,111.7	(386.6)	$2,779	$ 4,449	$45,284	$ (30,674)	$ (1,415)	$ 20,423
Net income			-	-	5,919	-	-	5,919
Other comprehensive income/(loss)			-	-	-	-	59	59
Conversion, stock option exercises, forfeitures, and other	0.3	1.7	1	46	-	82	-	129
Share repurchase programs (Note 18)	-	(35.0)	-	28	-	(5,832)	-	(5,804)
Cash dividends declared ($3.70 per share)	-	-	-	-	(2,598)	-	-	(2,598)
Balance at December 31, 2019	1,112.0	(419.9)	$2,780	$ 4,523	$48,605	$ (36,424)	$ (1,356)	$ 18,128
Net income			-	-	5,349	-	-	5,349
Other comprehensive income/(loss)			-	-	-	-	(237)	(237)
Conversion, stock option exercises, forfeitures, and other	0.2	1.1	1	31	-	19	-	51
Share repurchase programs (Note 18)	-	(22.1)	-	310	-	(4,015)	-	(3,705)
Cash dividends declared ($3.88 per share)	-	-	-	-	(2,628)	-	-	(2,628)
Balance at December 31, 2020	1,112.2	(440.9)	$2,781	$ 4,864	$51,326	$ (40,420)	$ (1,593)	$ 16,958
Net income			-	-	6,523	-	-	6,523
Other comprehensive income/(loss)			-	-	-	-	679	679
Conversion, stock option exercises, forfeitures, and other	0.2	0.6	-	91	-	1	-	92
Share repurchase programs (Note 18)	-	(33.3)	-	24	-	(7,315)	-	(7,291)
Cash dividends declared ($4.29 per share)	-	-	-	-	(2,800)	-	-	(2,800)
Balance at December 31, 2021	**1,112.4**	**(473.6)**	**$2,781**	**$ 4,979**	**$55,049**	**$ (47,734)**	**$ (914)**	**$ 14,161**

[a] AOCI = Accumulated Other Comprehensive Income/Loss (Note 9)

The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
Union Pacific Corporation and Subsidiary Companies

For purposes of this report, unless the context otherwise requires, all references herein to the "Corporation", "Company", "UPC", "we", "us", and "our" mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which will be separately referred to herein as "UPRR" or the "Railroad".

1. Nature of Operations

Operations and Segmentation – We are a Class I railroad operating in the U.S. Our network includes 32,452 route miles, connecting Pacific Coast and Gulf Coast ports with the Midwest and Eastern U.S. gateways and providing several corridors to key Mexican and Canadian gateways. We own 26,124 miles and operate on the remainder pursuant to trackage rights or leases. We serve the western two-thirds of the country and maintain coordinated schedules with other rail carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide and analyze revenue by commodity group, we treat the financial results of the Railroad as one segment due to the integrated nature of our rail network. Our operating revenues are primarily derived from contracts with customers for the transportation of freight from origin to destination. The following table represents a disaggregation of our freight and other revenues:

Millions	***2021***	*2020*	*2019*
Bulk	**$ 6,656**	$ 5,960	$ 6,529
Industrial	**7,323**	6,622	7,472
Premium	**6,265**	5,669	6,242
Total freight revenues	**$ 20,244**	$ 18,251	$ 20,243
Other subsidiary revenues	**741**	743	880
Accessorial revenues	**752**	473	514
Other	**67**	66	71
Total operating revenues	**$ 21,804**	$ 19,533	$ 21,708

Although our revenues are principally derived from customers domiciled in the U.S., the ultimate points of origination or destination for some products we transport are outside the U.S. Each of our commodity groups includes revenue from shipments to and from Mexico. Included in the above table are freight revenues from our Mexico business which amounted to $2.4 billion in 2021, $2.1 billion in 2020, and $2.3 billion in 2019.

Basis of Presentation – The Consolidated Financial Statements are presented in accordance with accounting principles generally accepted in the U.S. (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

2. Significant Accounting Policies

Principles of Consolidation – The Consolidated Financial Statements include the accounts of Union Pacific Corporation and all of its subsidiaries. Investments in affiliated companies (20% to 50% owned) are accounted for using the equity method of accounting. All intercompany transactions are eliminated. We currently have no less than majority-owned investments that require consolidation under variable interest entity requirements.

Cash, Cash Equivalents, and Restricted Cash – Cash equivalents consist of investments with original maturities of three months or less. Amounts included in restricted cash represent those required to be set aside by contractual agreement.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Statements of Financial Position that sum to the total of the same such amounts shown on the Consolidated Statements of Cash Flows:

Millions	2021	2020	2019
Cash and cash equivalents	**$ 960**	$ 1,799	$ 831
Restricted cash equivalents in other current assets	**19**	7	13
Restricted cash equivalents in other assets	**4**	12	12
Total cash, cash equivalents, and restricted cash equivalents shown on the Statement of Cash Flows:	**$ 983**	$ 1,818	$ 856

Accounts Receivable – Accounts receivable includes receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position.

Investments – Investments represent our investments in affiliated companies (20% to 50% owned) that are accounted for under the equity method of accounting, and investments in companies (less than 20% owned) accounted for at fair value when there is a readily determined fair value or at cost minus impairment when there are not readily determinable fair values. Our portion of income/loss on equity method investments that are integral to our operations are recorded in operating expenses. Realized and unrealized gains and losses on investments that are not integral to our operations are recorded in other income.

Materials and Supplies – Materials and supplies are carried at the lower of average cost or net realizable value.

Property and Depreciation – Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks), where lives are measured in millions of gross tons per mile of track. We use the group method of depreciation where all items with similar characteristics, use, and expected lives are grouped together in asset classes and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. Under the group method of depreciation, no gain or loss is recognized when depreciable property is retired or replaced in the ordinary course of business.

Impairment of Long-lived Assets – We review long-lived assets, including identifiable intangibles, for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of the long-lived assets, the carrying value is reduced to the estimated fair value.

Revenue Recognition – Freight revenues are derived from contracts with customers. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable. Our contracts include private agreements, private rate/letter quotes, public circulars/tariffs, and interline/foreign agreements. The performance obligation in our contracts is typically delivering a specific commodity from a place of origin to a place of destination and our commitment begins with the tendering and acceptance of a freight bill of lading and is satisfied upon delivery at destination. We consider each freight shipment to be a distinct performance obligation.

We recognize freight revenues over time as freight moves from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Outstanding performance obligations related to freight moves in transit totaled $169 million at December 31, 2021, and $151 million at December 31, 2020, and are expected to be recognized in the following quarter as we satisfy our remaining performance obligations and deliver freight to destination. The transaction price is generally specified in a contract and may be dependent on the commodity, origin/destination, and route. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied.

Under typical payment terms, our customers pay us after each performance obligation is satisfied and there are no material contract assets or liabilities associated with our freight revenues. Outstanding freight receivables are presented in our Consolidated Statements of Financial Position as accounts receivable, net.

Freight revenues related to interline transportation services that involve other railroads are reported on a net basis. The portion of the gross amount billed to customers that is remitted by the Company to another party is not reflected as freight revenues.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Translation of Foreign Currency – Our portion of the assets and liabilities related to foreign investments are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average rates of exchange prevailing during the year. Unrealized gains or losses are reflected within common shareholders' equity as accumulated other comprehensive income or loss.

Fair Value Measurements – We use a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety. These levels include:

Level 1: Quoted market prices in active markets for identical assets or liabilities.
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3: Unobservable inputs that are not corroborated by market data.

We have applied fair value measurements to our short-term investments, certain equity investments, pension plan assets, and short- and long-term debt.

Stock-Based Compensation – We issue treasury shares to cover stock option exercises, stock unit vestings, and ESPP shares, while new shares are issued when retention shares are granted.

We measure and recognize compensation expense for all stock-based awards made to employees, including stock options and ESPP awards. Compensation expense is based on the fair value of the awards as measured at the grant date and is expensed ratably over the service period of the awards (generally the vesting period). The fair value of retention awards is the closing stock price on the date of grant, the fair value of stock options is determined by using the Black-Scholes option pricing model, and the fair value of ESPP awards is based on the Company contribution match.

Earnings Per Share – Basic earnings per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that are reported in different periods for financial reporting and income tax purposes. The majority of our deferred tax assets relate to expenses that already have been recorded for financial reporting purposes but not deducted for tax purposes. The majority of our deferred tax liabilities relate to differences between the tax bases and financial reporting amounts of our land and depreciable property, due to accelerated tax depreciation (including bonus depreciation), revaluation of assets in purchase accounting transactions, and differences in capitalization methods. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Leases – We determine if an arrangement is or contains a lease at inception. Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. When an implicit rate is not available, we use a collateralized incremental borrowing rate for operating leases based on the information available at commencement date, including lease term, in determining the present value of future payments. The operating lease asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Operating leases are included in operating lease assets, accounts payable and other current liabilities, and operating lease liabilities on our Consolidated Statements of Financial Position. Finance leases are included in properties, net, debt due within one year, and debt due after one year on our Consolidated Statements of Financial Position. Operating lease expense is recognized on a straight-line basis over the lease term and primarily reported in equipment and other rents and financing lease expense is recorded as depreciation and interest expense in our Consolidated Statements of Income.

We have lease agreements with lease and non-lease components, and we have elected to not separate lease and non-lease components for all classes of underlying assets. Leases with an initial term of 12 months or less are not recorded on our Consolidated Statements of Financial Position. Leases with initial terms in excess of 12 months are recorded as operating or financing leases in our Consolidated Statements of Financial Position.

Pension Benefits – In order to measure the expense associated with pension benefits, we must make various assumptions including discount rates used to value certain liabilities, expected return on plan assets used to fund these expenses, compensation increases, employee turnover rates, and anticipated mortality rates. The assumptions used by us are based on our historical experience as well as current facts and circumstances. We use an actuarial analysis to measure the expense and liability associated with these benefits.

Personal Injury – The cost of injuries to employees and others on our property is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Legal fees and incidental costs are expensed as incurred.

Environmental – When environmental issues have been identified with respect to property currently or formerly owned, leased, or otherwise used in the conduct of our business, we perform, with the assistance of our consultants, environmental assessments on such property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. We do not discount our environmental liabilities when the timing of the anticipated cash payments is not fixed or readily determinable. Legal fees and incidental costs are expensed as incurred.

Use of Estimates – The preparation of our Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported assets and liabilities, the disclosure of certain contingent assets and liabilities as of the date of the Consolidated Financial Statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual future results may differ from such estimates.

3. Accounting Pronouncements

In December 2019, the FASB issued Accounting Standards Update No. 2019-12 (ASU 2019-12), *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which simplifies the accounting and disclosure requirements for income taxes by clarifying existing guidance to improve consistency in application of Accounting Standards Codification (ASC) 740. The Company adopted the ASU on January 1, 2021 (the effective date), and it did not have a material impact on the Company’s Consolidated Financial Statements and related disclosures.

In March 2020, the FASB issued Accounting Standards Update No. 2020-04 (ASU 2020-04), *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional expedients and exceptions for applying GAAP principles to contracts, hedging relationships, and other transactions that reference London Interbank Offered Rate (LIBOR) or another reference rate expected to be discontinued due to reference rate reform. This guidance was effective beginning on March 12, 2020, and can be adopted on a prospective basis no later than December 31, 2022, with early adoption permitted. The Company is currently evaluating the effect that the new guidance will have on our Consolidated Financial Statements and related disclosures.

In November 2021, the FASB issued Accounting Standards Update No. 2021-10 (ASU 2021-10), *Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance*, which requires business entities to provide certain disclosures when they have received government assistance and use a grant or contribution accounting model by analogy to other accounting guidance. The guidance is effective for fiscal years beginning after December 15, 2021. The Company is currently evaluating the effect that the new guidance will have on our related disclosures.

4. Stock Options and Other Stock Plans

In April 2000, the shareholders approved the Union Pacific Corporation 2000 Directors Plan (Directors Plan) whereby 2,200,000 shares of our common stock were reserved for issuance to our non-employee directors. Under the Directors Plan, each non-employee director, upon his or her initial election to the Board of Directors, received a grant of 4,000 retention shares or retention stock units. In July 2018, the Board of Directors eliminated the retention grant for directors newly elected in 2018 and all future years. As of December 31, 2021, 28,000 restricted shares were outstanding under the Directors Plan.

The Union Pacific Corporation 2004 Stock Incentive Plan (2004 Plan) was approved by shareholders in April 2004. The 2004 Plan reserved 84,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans that were outstanding on April 16, 2004, and became available for regrant pursuant to the terms of the 2004 Plan. Under the 2004 Plan, non-qualified stock options, stock appreciation rights, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2004 Plan. As of December 31, 2021, 37,778 stock options were outstanding under the 2004 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2013 Stock Incentive Plan (2013 Plan) was approved by shareholders in May 2013. The 2013 Plan reserved 78,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of February 28, 2013, that are subsequently cancelled, expired, forfeited, or otherwise not issued under previous plans. Under the 2013 Plan, non-qualified stock options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2013 Plan. As of December 31, 2021, 1,706,288 stock options and 1,218,397 retention shares and stock units were outstanding under the 2013 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2021 Stock Incentive Plan (2021 Plan) was approved by shareholders in May 2021. The 2021 Plan reserved 23,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of December 31, 2020, that are subsequently cancelled, expired, forfeited, or otherwise not issued under previous plans. Under the 2021 Plan, non-qualified stock options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2021 Plan. As of December 31, 2021, 361,935 stock options and 389,207 retention shares were outstanding under the 2021 Plan.

The Union Pacific Corporation 2021 Employee Stock Purchase Plan (2021 ESPP) was approved by shareholders in May 2021. The 2021 ESPP reserved 10,000,000 shares of our common stock for issuance. Under the 2021 ESPP, eligible employees of the Corporation and its subsidiaries may elect to purchase shares with a Company match award. Non-employee directors are not eligible for awards under the 2021 ESPP. As of December 31, 2021, 97,641 shares were issued under the 2021 ESPP.

Pursuant to the above plans 34,011,624; 69,867,405; and 70,318,887; shares of our common stock were authorized and available for grant at December 31, 2021, 2020, and 2019, respectively.

Stock-Based Compensation – We have several stock-based compensation plans under which employees receive nonvested stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as “retention awards”. Employees are also able to participate in our ESPP.

Information regarding stock-based compensation appears in the table below:

Millions		***2021***		*2020*		*2019*
Stock-based compensation, before tax:						
Stock options	**$**	**15**	$	15	$	16
Retention awards		**66**		58		77
ESPP		**7**		-		-
Total stock-based compensation, before tax	**$**	**88**	$	73	$	93
Excess tax benefits from equity compensation plans	**$**	**26**	$	55	$	52

Table of Contents

Stock Options – Stock options are granted at the closing price on the date of grant, have 10-year contractual terms, and vest no later than 3 years from the date of grant. None of the stock options outstanding at December 31, 2021, are subject to performance or market-based vesting conditions.

The table below shows the annual weighted-average assumptions used for Black-Scholes valuation purposes:

Weighted-Average Assumptions	***2021***	*2020*	*2019*
Risk-free interest rate	**0.4 %**	1.5 %	2.5 %
Dividend yield	**1.9 %**	2.1 %	2.2 %
Expected life (years)	**4.6**	4.9	5.2
Volatility	**28.3 %**	23.4 %	22.7 %
Weighted-average grant-date fair value of options granted	**$ 39.97**	$ 32.20	$ 30.37

The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant; the expected dividend yield is calculated as the ratio of dividends paid per share of common stock to the stock price on the date of grant; the expected life is based on historical and expected exercise behavior; and expected volatility is based on the historical volatility of our stock price over the expected life of the stock option.

A summary of stock option activity during 2021 is presented below:

	Options (thous.)	*Weighted-Average Exercise Price*	*Weighted-Average Remaining Contractual Term (yrs.)*	*Aggregate Intrinsic Value (millions)*
Outstanding at January 1, 2021	2,569	$ 132.49	6.4	$ 195
Granted	387	204.45	N/A	N/A
Exercised	(753)	118.11	N/A	N/A
Forfeited or expired	(97)	154.62	N/A	N/A
Outstanding at December 31, 2021	2,106	$ 149.84	6.3	$ 215
Vested or expected to vest at December 31, 2021	2,083	$ 149.37	6.3	$ 214
Options exercisable at December 31, 2021	1,334	$ 126.38	5.2	$ 167

At December 31, 2021, there was $15 million of unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted-average period of 1.0 year. Additional information regarding stock option exercises appears in the following table:

Millions	***2021***	*2020*	*2019*
Intrinsic value of stock options exercised	**$ 84**	$ 120	$ 193
Cash received from option exercises	**58**	95	130
Treasury shares repurchased for employee payroll taxes	**(15)**	(24)	(37)
Tax benefit realized from option exercises	**16**	28	48
Aggregate grant-date fair value of stock options vested	**14**	15	15

Retention Awards – Retention awards are granted at no cost to the employee, vest over periods lasting up to 4 years, and dividends and dividend equivalents are paid to participants during the vesting periods.

Changes in our retention awards during 2021 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2021	1,476	$ 141.06
Granted	297	205.81

Vested	(417)	109.23
Forfeited	(69)	163.73
Nonvested at December 31, 2021	1,287	$ 165.10

At December 31, 2021, there was $87 million of total unrecognized compensation expense related to nonvested retention awards, which is expected to be recognized over a weighted-average period of 1.4 years.

Performance Retention Awards – In February 2021, our Board of Directors approved performance stock unit grants. This plan is based on performance targets for annual return on invested capital (ROIC) and operating income growth (OIG) compared to companies in the S&P 100 Industrials Index plus the Class I railroads. We define ROIC as net operating profit adjusted for interest expense (including interest on average operating lease liabilities) and taxes on interest divided by average invested capital adjusted for average operating lease liabilities.

The February 2021 stock units awarded to selected employees are subject to continued employment for 37 months, the attainment of certain levels of ROIC, and the relative three-year OIG. We expense two-thirds of the fair value of the units that are probable of being earned based on our forecasted ROIC over the 3-year performance period, and with respect to the third year of the plan, the remaining one-third of the fair value is subject to the relative three-year OIG. We measure the fair value of performance stock units based upon the closing price of the underlying common stock as of the date of grant. Dividend equivalents are accumulated during the service period and paid to participants only after the units are earned.

The February 2020 and 2019 performance stock unit grants expense recognition and basic terms were similar to the February 2021 grant except the relative OIG targets were a modifier as compared to companies included in the S&P 500 Industrials Index. The modifier can be up to +/- 25% of the award earned based on the ROIC achieved.

Changes in our performance retention awards during 2021 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2021	773	$ 148.17
Granted	227	204.45
Vested	(136)	141.93
Unearned	(140)	126.47
Forfeited	(83)	156.94
Nonvested at December 31, 2021	641	$ 173.03

At December 31, 2021, there was $16 million of total unrecognized compensation expense related to nonvested performance retention awards, which is expected to be recognized over a weighted-average period of 1.2 years. This expense is subject to achievement of the performance measures established for the performance stock unit grants.

Employee Stock Purchase Plan - Our ESPP started in July 2021. Employee and Company contributions are used to issue treasury shares the month after employee contributions are withheld based on the settlement date closing price. The Company matches 40% contributed by the employee up to a maximum employee contribution of 5% of monthly salary (limited to $15,000 annually). We expense the Company contributions in the month the employee services were rendered (i.e., the month the employee contributions were withheld).

5. Retirement Plans

Pension Benefits

We provide defined benefit retirement income to eligible non-union employees through qualified and non-qualified (supplemental) pension plans. Qualified and non-qualified pension benefits are based on years of service and the highest compensation during the latest years of employment, with specific reductions made for early retirements. Non-union employees hired on or after January 1, 2018, are no longer eligible for pension benefits, but are eligible for an enhanced 401(k) benefit as described below in other retirement programs.

Funded Status

We are required by GAAP to separately recognize the overfunded or underfunded status of our pension plans as an asset or liability. The funded status represents the difference between the projected benefit obligation (PBO) and the fair value of the plan assets. Our non-qualified (supplemental) pension plan is unfunded by design. The PBO of the pension plans is the present value of benefits earned to date by plan participants, including the effect of assumed future compensation increases. Plan assets are measured at fair value. We use a December 31 measurement date for plan assets and obligations for all our retirement plans.

Table of Contents

Changes in our PBO and plan assets were as follows for the years ended December 31, 2021 and 2020:

Funded Status		
Millions	***2021***	*2020*
Projected Benefit Obligation		
Projected benefit obligation at beginning of year	**$ 5,658**	$ 4,847
Service cost	**110**	91
Interest cost	**104**	137
Actuarial (gain)/loss	**(346)**	812
Gross benefits paid	**(230)**	(229)
Projected benefit obligation at end of year	**$ 5,296**	$ 5,658
Plan Assets		
Fair value of plan assets at beginning of year	**$ 5,016**	$ 4,528
Actual (loss)/return on plan assets	**737**	686
Non-qualified plan benefit contributions	**31**	31
Gross benefits paid	**(230)**	(229)
Fair value of plan assets at end of year	**$ 5,554**	$ 5,016
Funded status at end of year	**$ 258**	$ (642)

Actuarial gains that decreased the PBO were driven by an increase in 2021 discount rates from 2.42% to 2.80%.

Amounts recognized in the statement of financial position as of December 31, 2021 and 2020, consist of:

Millions	***2021***	*2020*
Noncurrent assets	**$ 807**	$ 8
Current liabilities	**(31)**	(30)
Noncurrent liabilities	**(518)**	(620)
Net amounts recognized at end of year	**$ 258**	$ (642)

Pre-tax amounts recognized in accumulated other comprehensive income/loss consist of $851 million and $1,805 million net actuarial loss as of December 31, 2021 and 2020, respectively.

Pre-tax changes recognized in other comprehensive income/loss as of December 31, 2021, 2020, and 2019, were as follows:

Millions	***2021***	*2020*	*2019*
Net actuarial (loss)/gain	**$ 813**	$ (408)	$ (88)
Amortization of:			
Actuarial loss	**141**	104	67
Total	**$ 954**	$ (304)	$ (21)

Underfunded Accumulated Benefit Obligation – The accumulated benefit obligation (ABO) is the present value of benefits earned to date, assuming no future compensation growth. The underfunded accumulated benefit obligation represents the difference between the ABO and the fair value of plan assets.

The following table discloses only the PBO, ABO, and fair value of plan assets for pension plans where the accumulated benefit obligation is in excess of the fair value of the plan assets as of December 31, 2021 and 2020:

Underfunded Accumulated Benefit Obligation		
Millions	***2021***	*2020*
Projected benefit obligation	**$ 549**	$ 605

	2021	2020
Accumulated benefit obligation	**$ 513**	$ 560
Fair value of plan assets	**-**	-
Underfunded accumulated benefit obligation	**$ (513)**	$ (560)

The ABO for all defined benefit pension plans was $4.9 billion and $5.2 billion at December 31, 2021 and 2020, respectively.

Assumptions – The weighted-average actuarial assumptions used to determine benefit obligations at December 31, 2021 and 2020:

Percentages	***2021***	*2020*
Discount rate	**2.80 %**	2.42 %
Compensation increase	**4.30 %**	4.40 %

Table of Contents

Expense

Pension expense is determined based upon the annual service cost of benefits (the actuarial cost of benefits earned during a period) and the interest cost on those liabilities, less the expected return on plan assets. The expected long-term rate of return on plan assets is applied to a calculated value of plan assets that recognizes changes in fair value over a 5-year period. This practice is intended to reduce year-to-year volatility in pension expense, but it can have the effect of delaying the recognition of differences between actual returns on assets and expected returns based on long-term rate of return assumptions. Differences in actual experience in relation to assumptions are not recognized in net income immediately, but are deferred in accumulated other comprehensive income/loss and, if necessary, amortized as pension expense.

The components of our net periodic pension cost were as follows for the years ended December 31, 2021, 2020, and 2019:

Millions	***2021***	*2020*	*2019*
Net Periodic Pension Cost:			
Service cost	**$ 110**	$ 91	$ 80
Interest cost	**104**	137	160
Expected return on plan assets	**(270)**	(282)	(273)
Amortization of:			
Actuarial loss	**141**	104	67
Net periodic pension cost	**$ 85**	$ 50	$ 34

Assumptions – The weighted-average actuarial assumptions used to determine expense were as follows:

Percentages	***2021***	*2020*	*2019*
Discount rate for benefit obligations	**2.42 %**	3.26 %	4.23 %
Discount rate for interest on benefit obligations	**1.90 %**	2.89 %	3.94 %
Discount rate for service cost	**2.61 %**	3.42 %	4.33 %
Discount rate for interest on service cost	**2.53 %**	3.36 %	4.30 %
Expected return on plan assets	**6.25 %**	7.00 %	7.00 %
Compensation increase	**4.40 %**	4.10 %	4.10 %

We measure the service cost and interest cost components of our net periodic pension cost by using individual spot discount rates matched with separate cash flows for each future year. The discount rates were based on a yield curve of high-quality corporate bonds. The expected return on plan assets is based on our asset allocation mix and our historical return, taking into account current and expected market conditions. The actual return/loss on pension plan assets, net of fees, was approximately15%in 2021, 16% in 2020, and 20% in 2019.

Cash Contributions

The following table details cash contributions, if any, for the qualified and non-qualified (supplemental) pension plans:

Millions	*Qualified*	*Non-qualified*
2021	$ -	$ 31
2020	-	31

Our policy with respect to funding the qualified plans is to fund at least the minimum required by law and not more than the maximum amount deductible for tax purposes.

The non-qualified pension plans are not funded and are not subject to any minimum regulatory funding requirements. Benefit payments for each year represent supplemental pension payments. We anticipate our 2022 supplemental pension payments will be made from cash generated from operations.

Table of Contents

Benefit Payments

The following table details expected benefit payments for the years 2022 through 2031:

Millions	
2022	$ 229
2023	228
2024	227
2025	227
2026	228
Years 2027 - 2031	1,170

Asset Allocation Strategy

Our pension plan asset allocation at December 31, 2021 and 2020, and target allocation for 2022, are as follows:

	Percentage of Plan Assets		
	Target	*December 31,*	
	Allocation 2022	***2021***	*2020*
Equity securities	45% to 55%	**57 %**	63 %
Debt securities	45% to 55%	**42**	34
Real estate	0% to 2%	**1**	3
Total		**100 %**	100 %

The pension plan investments are held in a master trust. The investment strategy for pension plan assets is to maintain a broadly diversified portfolio designed to achieve our target average long-term rate of return of 6.25%. While we believe we can achieve a long-term average rate of return of 6.25%, we cannot be certain that the portfolio will perform to our expectations. Assets are strategically allocated among equity, debt, and other investments in order to achieve a diversification level that reduces fluctuations in investment returns. Asset allocation target ranges for equity, debt, and other portfolios are evaluated at least every three years with the assistance of an independent consulting firm. Actual asset allocations are monitored monthly, and rebalancing actions are executed at least quarterly, as needed.

Since 2020, the asset allocation targets for equity and debt have been adjusted annually to move from equity to debt as a de-risking measure. The current target endpoint for this de-risking is 45% equity and 55% debt in 2023. Equity risks are balanced by investing a significant portion of the plans' assets in high-quality debt securities. The average credit rating of the debt portfolio was A+ and A at December 31, 2021 and 2020, respectively. The debt portfolio is also broadly diversified and invested primarily in U.S. Treasury, mortgage, and corporate securities. The weighted-average maturity of the debt portfolio was 20 years and 17 years at December 31, 2021 and 2020, respectively.

The investment of pension plan assets in securities issued by UPC is explicitly prohibited by the plan for both the equity and debt portfolios, other than through index fund holdings.

Fair Value Measurements

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Temporary Cash Investments – These investments consist of U.S. dollars, foreign currencies, and commercial paper held in master trust accounts at The Northern Trust Company (the Trustee). Foreign currencies held are reported in terms of U.S. dollars based on currency exchange rates readily available in active markets. U.S. dollars and foreign currencies are classified as Level 1 investments. Commercial paper assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Commercial paper is classified as Level 2 investments.

Registered Investment Companies – Registered Investment Companies are entities primarily engaged in the business of investing in securities and are registered with the SEC. The plan's holdings of Registered Investment Companies include both public and private fund vehicles. The public vehicles are exchange-traded funds (stocks), which are classified as Level 1 investments. The private vehicles (bonds) do not have published pricing and are valued using Net Asset Value (NAV).

Federal Government Securities – Federal Government Securities consist of bills, notes, bonds, and other fixed income securities issued directly by the U.S. Treasury or by government-sponsored enterprises. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Federal Government Securities are classified as Level 2 investments.

Bonds and Debentures – Bonds and debentures consist of debt securities issued by U.S. and non-U.S. corporations as well as state and local governments. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Corporate, state, and municipal bonds and debentures are classified as Level 2 investments.

Corporate Stock – This investment category consists of common and preferred stock issued by U.S. and non-U.S. corporations. Most common shares are traded actively on exchanges and price quotes for these shares are readily available. Common stock is classified as a Level 1 investment. Preferred shares included in this category are valued using a bid evaluation process with bid data provided by independent pricing sources. Preferred stock is classified as a Level 2 investment.

Venture Capital and Buyout Partnerships – This investment category is comprised of interests in limited partnerships that invest primarily in privately-held companies. Due to the private nature of the partnership investments, pricing inputs are not readily observable. Asset valuations are developed by the general partners that manage the partnerships. These valuations are based on the application of public market multiples to private company cash flows, market transactions that provide valuation information for comparable companies, and other methods. The fair value recorded by the plan is calculated using each partnership's NAV.

Real Estate Funds – Most of the plan's real estate investments are primarily interests in private real estate investment trusts, partnerships, limited liability companies, and similar structures. Valuations for the holdings in this category are not based on readily observable inputs and are primarily derived from property appraisals. The fair value recorded by the plan is calculated using the NAV for each investment.

Collective Trust and Other Funds – Collective trust and other funds are comprised of shares or units in commingled funds and limited liability companies that are not publicly traded. The underlying assets in these entities (U.S. stock funds, non-U.S. stock funds, commodity funds, hedge funds, and short-term investment funds) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. The fair value recorded by the plan is calculated using NAV for each investment.

As of December 31, 2021, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 9	$ -	$ -	$ 9
Registered investment companies [a]	10	-	-	10
Federal government securities	-	742	-	742
Bonds and debentures	-	1,116	-	1,116
Corporate stock	1,980	10	-	1,990
Total plan assets at fair value	$ 1,999	$ 1,868	$ -	$ 3,867
Plan assets at NAV:				
Registered investment companies [b]				185
Venture capital and buyout partnerships				710
Real estate funds				48
Collective trust and other funds				756
Total plan assets at NAV				$ 1,699
Other assets/(liabilities) [c]				(12)
Total plan assets				$ 5,554

As of December 31, 2020, the pension plan assets measured at fair value on a recurring basis were as follows:

	Quoted Prices in Active Markets for Identical Inputs	*Significant Other Observable Inputs*	*Significant Unobservable Inputs*

Millions	*(Level 1)*	*(Level 2)*	*(Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 9	$ -	$ -	$ 9
Registered investment companies [a]	252	-	-	252
Federal government securities	-	150	-	150
Bonds and debentures	-	831	-	831
Corporate stock	2,209	8	-	2,217
Total plan assets at fair value	$ 2,470	$ 989	$ -	$ 3,459
Plan assets at NAV:				
Registered investment companies [b]				312
Venture capital and buyout partnerships				585
Real estate funds				161
Collective trust and other funds				498
Total plan assets at NAV				$ 1,556
Other assets/(liabilities) [c]				1
Total plan assets				$ 5,016

[a] Registered investment companies measured at fair value are stock investments.

[b] Registered investment companies measured at NAV include bond investments.

[c] Includes accrued receivables, net payables, and pending broker settlements.

The master trust's investments in limited partnerships and similar structures (used to invest in private equity and real estate) are valued at fair value based on their proportionate share of the partnerships' fair value as recorded in the limited partnerships' audited financial statements. The limited partnerships allocate gains, losses, and expenses to the partners based on the ownership percentage as described in the partnership agreements. At December 31, 2021 and 2020, the master trust had future commitments for additional contributions to private equity partnerships totaling $115 million and $147 million, respectively, and to real estate partnerships and funds totaling $7 million and $7 million, respectively.

Other Retirement Programs

Other Postretirement Benefits (OPEB) – We provide medical and life insurance benefits for eligible retirees hired before January 1, 2004. These benefits are funded as medical claims and life insurance premiums are paid. OPEB expense is determined based upon the annual service cost of benefits and the interest cost on those liabilities, less the expected return on plan assets. Our OPEB liability was $165 million and $190 million at December 31, 2021 and 2020, respectively. OPEB net periodic benefit cost/(benefit) was ($3) million in 2021, ($1) million in 2020, and $10 million in 2019.

401(k)/Thrift Plan – For non-union employees hired prior to January 1, 2018, and eligible union employees for whom we make matching contributions, we provide a defined contribution plan (401(k)/ thrift plan). We match 50% for each dollar contributed by employees up to the first 6% of compensation contributed. For non-union employees hired on or after January 1, 2018, we match 100% for each dollar, up to the first 6% of compensation contributed, in addition to contributing an annual amount of 3% of the employee's annual base salary. Our plan contributions were $21 million in 2021, $19 million in 2020, and $20 million in 2019.

Railroad Retirement System – All Railroad employees are covered by the Railroad Retirement System (the System). Contributions made to the System are expensed as incurred and amounted to approximately $550 million in 2021, $569 million in 2020, and $654 million in 2019.

Collective Bargaining Agreements – Under collective bargaining agreements, we participate in multi-employer benefit plans that provide certain postretirement health care and life insurance benefits for eligible union employees. Premiums paid under these plans are expensed as incurred and amounted to $30 million in 2021, $30 million in 2020, and $42 million in 2019.

6. Other Income

Other income included the following for the years ended December 31:

Millions	***2021***	*2020*	*2019*
Rental income	**$ 136**	$ 123	$ 124
Gain on non-operating asset dispositions [a]	**98**	115	20
Gain from sale of investment	**36**	-	-
Net periodic pension costs	**25**	41	46
Interest income	**5**	12	32
Interest income on employment tax refund	**-**	-	31
Other	**(3)**	(4)	(10)
Total	**$ 297**	$ 287	$ 243

[a] 2021 includes a $50 million gain from a sale to the Colorado Department of Transportation. 2020 includes a $69 million gain from a land and permanent easement sale to the Illinois State Toll Highway Authority.

7. Income Taxes

Components of income tax expense were as follows for the years ended December 31:

Millions	***2021***	*2020*	*2019*
Current tax expense:			
Federal	**$ 1,446**	$ 1,026	$ 1,000
State	**347**	259	254

Foreign	**8**	6	8
Total current tax expense	**1,801**	1,291	1,262
Deferred and other tax expense/(benefit):			
Federal	**199**	295	417
State [a]	**(44)**	45	128
Foreign	**(1)**	-	21
Total deferred and other tax expense	**154**	340	566
Total income tax expense	**$ 1,955**	$ 1,631	$ 1,828

[a] In 2021, Nebraska, Oklahoma, Idaho, Louisiana and Arkansas enacted corporate income tax legislation that resulted in a net $32 million reduction of our deferred tax expense. In 2019, Arkansas enacted legislation to reduce their corporate income tax rate for future years resulting in a $21 million reduction of our deferred tax expense.

For the years ended December 31, reconciliations between statutory and effective tax rates are as follows:

Tax Rate Percentages	***2021***	*2020*	*2019*
Federal statutory tax rate	**21.0 %**	21.0 %	21.0 %
State statutory rates, net of federal benefits	**3.7**	3.7	3.7
Deferred tax adjustments	**(0.6)**	(0.1)	(0.1)
Dividends received deduction	**(0.5)**	(0.5)	(0.6)
Excess tax benefits from equity compensation plans	**(0.3)**	(0.8)	(0.7)
Other	**(0.2)**	0.1	0.3
Effective tax rate	**23.1 %**	23.4 %	23.6 %

Deferred income tax assets/(liabilities) were comprised of the following at December 31, 2021 and 2020:

Millions	***2021***	*2020*
Deferred income tax liabilities:		
Property	**$ (12,657)**	$ (12,474)
Operating lease assets	**(441)**	(397)
Other	**(534)**	(444)
Total deferred income tax liabilities	**(13,632)**	(13,315)
Deferred income tax assets:		
Operating lease liabilities	**434**	396
Accrued casualty costs	**157**	143
Accrued wages	**45**	40
Retiree benefits	**39**	255
Stock compensation	**26**	26
Other	**256**	208
Total deferred income tax assets	**957**	1,068
Net deferred income tax liability	**$ (12,675)**	$ (12,247)

In 2021 and 2020, there were no valuation allowances against deferred tax assets.

A reconciliation of changes in unrecognized tax benefits liabilities/(assets) from the beginning to the end of the reporting period is as follows:

Millions	***2021***	*2020*	*2019*
Unrecognized tax benefits at January 1	**$ 74**	$ 64	$ 174
Decreases for positions taken in prior years	**(24)**	(19)	(96)
Refunds from/(payments to) and settlements with taxing authorities	**(12)**	-	(11)
Increases for positions taken in current year	**3**	18	20
Increases/(decreases) for interest and penalties	**(3)**	5	(5)
Increases for positions taken in prior years	**1**	7	44
Lapse of statutes of limitations	**(1)**	(1)	(62)
Unrecognized tax benefits at December 31	**$ 38**	$ 74	$ 64

We recognize interest and penalties as part of income tax expense. Total accrued liabilities/(receivables) for interest and penalties were ($1) million and $8 million at December 31, 2021 and 2020, respectively. Total interest and penalties recognized as part of income tax expense/(benefit) were ($5) million for 2021, $5 million for 2020, and ($4) million for 2019.

Several state tax authorities are examining our state income tax returns for years 2017 through 2019.

We do not expect our unrecognized tax benefits to change significantly in the next 12 months. The portion of our unrecognized tax benefits that relates to permanent changes in tax and interest would reduce our effective tax rate, if recognized. The remaining unrecognized tax benefits relate to tax positions for which only the timing of the benefit is uncertain. The unrecognized tax benefits that would reduce our effective tax rate are $31 million for 2021, $52 million for 2020, and $39 million for 2019.

8. Earnings Per Share

The following table provides a reconciliation between basic and diluted earnings per share for the years ended December 31, 2021, 2020 and 2019:

Millions, Except Per Share Amounts	***2021***	*2020*	*2019*
Net income	**$ 6,523**	$ 5,349	$ 5,919
Weighted-average number of shares outstanding:			
Basic	**653.8**	677.3	703.5
Dilutive effect of stock options	**0.8**	0.8	1.2
Dilutive effect of retention shares and units	**0.8**	1.0	1.4
Diluted	**655.4**	679.1	706.1
Earnings per share – basic	**$ 9.98**	$ 7.90	$ 8.41
Earnings per share – diluted	**$ 9.95**	$ 7.88	$ 8.38

Common stock options totaling 0.2 million, 0.3 million, and 0.5 million for 2021, 2020, and 2019, respectively, were excluded from the computation of diluted earnings per share because the exercise prices of these stock options exceeded the average market price of our common stock for the respective periods, and the effect of their inclusion would be anti-dilutive.

9. Accumulated Other Comprehensive Income/Loss

Reclassifications out of accumulated other comprehensive income/loss were as follows (net of tax):

Millions	*Defined benefit plans*	*Foreign currency translation*	*Total*
Balance at January 1, 2021	$ (1,381)	$ (212)	$ (1,593)
Other comprehensive income/(loss) before reclassifications	-	(44)	(44)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]	723	-	723
Net year-to-date other comprehensive income/(loss), net of taxes of ($237) million	723	(44)	679
Balance at December 31, 2021	$ (658)	$ (256)	$ (914)
Balance at January 1, 2020	$ (1,150)	$ (206)	$ (1,356)
Other comprehensive income/(loss) before reclassifications	2	(6)	(4)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]	(233)	-	(233)
Net year-to-date other comprehensive income/(loss), net of taxes of $75 million	(231)	(6)	(237)
Balance at December 31, 2020	$ (1,381)	$ (212)	$ (1,593)

[a] The accumulated other comprehensive income/loss reclassification components are 1) prior service cost/credit and 2) net actuarial loss which are both included in the computation of net periodic pension cost. See Note 5 for additional details.

10. Accounts Receivable

Accounts receivable includes freight and other receivables reduced by an allowance for doubtful accounts. At December 31, 2021 and 2020, our accounts receivable were reduced by $10 million and $17 million, respectively. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position. Receivables classified as other assets were reduced by allowances of $51 million at both December 31, 2021 and 2020.

Receivables Securitization Facility – The Railroad maintains an $800 million, 3-year receivables securitization facility (the Receivables Facility) maturing in July 2022. Under the Receivables Facility, the Railroad sells most of its eligible third-party receivables to Union Pacific Receivables, Inc. (UPRI), a consolidated, wholly-owned, bankruptcy-remote subsidiary that may subsequently transfer, without recourse, an undivided interest in accounts receivable to investors. The investors have no recourse to the Railroad's other assets except for customary warranty and indemnity claims. Creditors of the Railroad do not have recourse to the assets of UPRI.

The amount recorded under the Receivables Facility was $300 million and $0 at December 31, 2021 and 2020, respectively. The Receivables Facility was supported by $1.3 billion and $1.2 billion of accounts receivable as collateral at December 31, 2021 and 2020, respectively, which, as a retained interest, is included in accounts receivable, net in our Consolidated Statements of Financial Position.

The outstanding amount the Railroad maintains under the Receivables Facility may fluctuate based on current cash needs. The maximum allowed under the facility is $800 million with availability directly impacted by eligible receivables, business volumes, and credit risks, including receivables payment quality measures such as default and dilution ratios. If default or dilution ratios increase one percent, the allowable outstanding amount under the Receivables Facility would not materially change.

The costs of the Receivables Facility include interest, which will vary based on prevailing benchmark and commercial paper rates, program fees paid to participating banks, commercial paper issuance costs, and fees of participating banks for unused commitment availability. The costs of the Receivables Facility are included in interest expense and were $4 million, $7 million, and $14 million for 2021, 2020, and 2019, respectively.

11. Properties

The following tables list the major categories of property and equipment as well as the weighted-average estimated useful life for each category (in years):

Millions, Except Estimated Useful Life *As of December 31, 2021*	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,339	$ N/A	$ 5,339	N/A
Road:				
Rail and other track material	17,980	6,844	11,136	44
Ties	11,364	3,516	7,848	34
Ballast	6,070	1,852	4,218	34
Other roadway [a]	21,593	4,657	16,936	47
Total road	57,007	16,869	40,138	N/A
Equipment:				
Locomotives	9,371	3,779	5,592	17
Freight cars	2,227	822	1,405	24
Work equipment and other	1,161	411	750	18
Total equipment	12,759	5,012	7,747	N/A
Technology and other	1,209	523	686	12
Construction in progress	961	-	961	N/A
Total	$ 77,275	$ 22,404	$ 54,871	N/A

Millions, Except Estimated Useful Life *As of December 31, 2020*	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,246	$ N/A	$ 5,246	N/A
Road:				
Rail and other track material	17,620	6,631	10,989	42
Ties	11,051	3,331	7,720	34
Ballast	5,926	1,753	4,173	34
Other roadway [a]	21,030	4,329	16,701	48
Total road	55,627	16,044	39,583	N/A
Equipment:				
Locomotives	9,375	3,555	5,820	17
Freight cars	2,118	789	1,329	25
Work equipment and other	1,107	351	756	18
Total equipment	12,600	4,695	7,905	N/A
Technology and other	1,199	520	679	13
Construction in progress	748	-	748	N/A
Total	$ 75,420	$ 21,259	$ 54,161	N/A

[a] Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.

Property and Depreciation – Our railroad operations are highly capital-intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. We perform depreciation studies at least every 3 years for equipment and every 6 years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes,
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets,
- Evaluation of technological advances and changes to maintenance practices, and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives, and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Under the group method of depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) is unusual, (ii) is material in amount, and (iii) varies significantly from the retirement profile identified through our depreciation studies. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

We review construction in progress assets that have not yet been placed into service, for impairment when events or changes in circumstances indicate that the carrying amount of a long-lived asset or assets may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of construction in progress assets when grouped with other assets and liabilities at the lowest level where identifiable cash flows are largely independent, the carrying value is reduced to the estimated fair value.

When we purchase an asset, we capitalize all costs necessary to make the asset ready for its intended use. However, many of our assets are self-constructed. A large portion of our capital expenditures is for replacement of existing track assets and other road properties, which is typically performed by our employees, and for track line expansion and other capacity projects. Costs that are directly attributable to capital projects (including overhead costs) are capitalized. Direct costs that are capitalized as part of self-constructed assets include material, labor, and work equipment. Indirect costs are capitalized if they clearly relate to the construction of the asset.

Costs incurred that extend the useful life of an asset, improve the safety of our operations, or improve operating efficiency are capitalized, while normal repairs and maintenance are expensed as incurred. These costs are allocated using appropriate statistical bases. Total expense for repairs and maintenance incurred was $2.1 billion for 2021, $2.0 billion for 2020, and $2.3 billion for 2019.

Assets held under finance leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

Brazos Yard Impairment – In the fourth quarter of 2020, we made the strategic decision that our Brazos yard investments made to date will be used for freight car block swapping activities, rather than proceeding with additional investments required to complete the freight car classification yard. As a result, we recorded a non-cash impairment charge of $278 million, recognized in other expense in our

Consolidated Statements of Income. The Brazos yard investment was recorded as construction in progress as it had not yet been placed into service. We estimated the fair value of the remaining Brazos investments not used for freight car block swapping activities based on market values of similar assets, which are Level 2 inputs.

12. Accounts Payable and Other Current Liabilities

Millions	***Dec. 31, 2021***	*Dec. 31, 2020*
Income and other taxes payable	**$ 823**	$ 635
Accounts payable	**752**	612
Accrued wages and vacation	**352**	340
Interest payable	**330**	326
Current operating lease liabilities (Note 16)	**330**	321
Accrued casualty costs	**187**	177
Equipment rents payable	**98**	101
Other	**706**	592
Total accounts payable and other current liabilities	**$ 3,578**	$ 3,104

Table of Contents

13. Financial Instruments

Short-Term Investments – All of the Company's short-term investments consist of time deposits and government agency securities. These investments are considered Level 2 investments and are valued at amortized cost, which approximates fair value. As of December 31, 2021, the Company had $46 million of short-term investments. All short-term investments have a maturity of less than one year and are classified as held-to-maturity.

Fair Value of Financial Instruments – The fair value of our short- and long-term debt was estimated using a market value price model, which utilizes applicable U.S. Treasury rates along with current market quotes on comparable debt securities. All of the inputs used to determine the fair market value of the Corporation's long-term debt are Level 2 inputs and obtained from an independent source. At December 31, 2021, the fair value of total debt was $32.9 billion, approximately $3.2 billion more than the carrying value. At December 31, 2020, the fair value of total debt was $31.9 billion, approximately $5.1 billion more than the carrying value. The fair value of the Corporation's debt is a measure of its current value under present market conditions. The fair value of our cash equivalents approximates their carrying value due to the short-term maturities of these instruments.

14. Debt

Total debt as of December 31, 2021 and 2020 is summarized below:

Millions	***2021***	*2020*
Notes and debentures, 2.2% to 7.1% due through April 6, 2071	**$ 29,508**	$ 26,608
Equipment obligations, 2.6% to 6.2% due through January 2, 2031	**848**	885
Commercial paper, 0.2% to 0.3% due through January 26, 2022	**400**	75
Finance leases, 3.1% to 8.0% due through December 10, 2028	**336**	449
Receivables Facility (Note 10)	**300**	-
Term loans - floating rate, due August 31, 2022	**100**	250
Unamortized discount and deferred issuance costs	**(1,763)**	(1,538)
Total debt	**29,729**	26,729
Less: current portion	**(2,166)**	(1,069)
Total long-term debt	**$ 27,563**	$ 25,660

Debt Maturities – The following table presents aggregate debt maturities as of December 31, 2021, excluding market value adjustments:

Millions	
2022	$ 2,180
2023	1,385
2024	1,439
2025	1,429
2026	1,016
Thereafter	24,043
Total principal	31,492
Unamortized discount and deferred issuance costs	(1,763)
Total debt	$ 29,729

Equipment Encumbrances – Equipment with a carrying value of approximately $1.2 billion and $1.3 billion at December 31, 2021 and 2020, respectively, served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Debt Redemptions – On November 1, 2020, we redeemed all $500 million of outstanding 4.0% notes due February 1, 2021, at a redemption price equal to 100% of the principal amount of the notes plus accrued and unpaid interest.

Debt Exchange - On April 6, 2021, we exchanged approximately $1.7 billion of various outstanding notes and debentures due between 2028 and 2065 (Existing Notes) for $701 million of 2.891% notes due April 6, 2036 (New 2036 Notes) and $1.0 billion of 3.799% notes due April 6, 2071 (New 2071 Notes), plus cash consideration of approximately $257 million in addition to $14 million for accrued and unpaid interest on the Existing Notes. In accordance with ASC 470-50-40, *Debt-Modifications and Extinguishments-Derecognition*, this transaction was accounted for as a debt exchange, as the exchanged debt instruments are not considered to be substantially different. The cash consideration was recorded as an adjustment to the carrying value of debt, and the balance of the unamortized discount and issue costs from the Existing Notes is being amortized as an adjustment of interest expense over the terms of the new notes. No gain or loss was recognized as a result of the exchange. Costs related to the debt exchange that were payable to parties other than the debt holders totaled approximately $13 million and were included in interest expense during 2021.

On September 16, 2020, we exchanged $1,047 million of various outstanding notes and debentures due between May 1, 2037, and March 1, 2049 (the Existing Notes), for $1,047 million of 2.973% notes (the New Notes) due September 16, 2062, plus cash consideration of approximately $319 million in addition to $4 million for accrued and unpaid interest on the Existing Notes. In accordance with ASC 470-50-40, *Debt-Modifications and Extinguishments-Derecognition*, this transaction was accounted for as a debt exchange, as the exchanged debt instruments are not considered to be substantially different. The cash consideration was recorded as an adjustment to the carrying value of debt, and the balance of the unamortized discount and issue costs from the Existing Notes is being amortized as an adjustment of interest expense over the terms of the New Notes. No gain or loss was recognized as a result of the exchange. Costs related to the debt exchange that were payable to parties other than the debt holders totaled approximately $9 million and were included in interest expense during the quarter ended September 30, 2020.

Credit Facilities – At December 31, 2021, we had $2.0 billion of credit available under our revolving credit facility, which is designated for general corporate purposes and supports the issuance of commercial paper. Credit facility withdrawals totaled $0 during 2021. Commitment fees and interest rates payable under the Facility are similar to fees and rates available to comparably rated, investment-grade borrowers. The Facility allows for borrowings at floating rates based on LIBOR, plus a spread, depending upon credit ratings for our senior unsecured debt. The 5-year facility, set to expire on June 8, 2023, requires UPC to maintain a debt-to-EBITDA (earnings before interest, taxes, depreciation, and amortization) coverage ratio.

The definition of debt used for purposes of calculating the debt-to-EBITDA coverage ratio includes, among other things, certain credit arrangements, finance leases, guarantees, unfunded and vested pension benefits under Title IV of ERISA, and unamortized debt discount and deferred debt issuance costs. At December 31, 2021, the Company was in compliance with the debt-to-EBITDA coverage ratio, which allows us to carry up to $41.2 billion of debt (as defined in the Facility), and we had $31.5 billion of debt (as defined in the Facility) outstanding at that date. The Facility does not include any other financial restrictions, credit rating triggers (other than rating-dependent pricing), or any other provision that could require us to post collateral. The Facility also includes a $150 million cross-default provision and a change-of-control provision.

During 2021, we issued $2.1 billion and repaid $1.8 billion of commercial paper with maturities ranging from 7 to 86 days. As of December 31, 2021 and 2020, we had $400 million and $75 million of commercial paper outstanding, respectively. Our revolving credit facility supports our outstanding commercial paper balances, and, unless we change the terms of our commercial paper program, our aggregate issuance of commercial paper will not exceed the amount of borrowings available under the Facility.

In May 2020, we entered into three bilateral revolving credit lines, totaling $600 million of available credit. Since entering into the three bilateral revolving credit lines, we drew $300 million and repaid $300 million. All three bilateral revolving credit lines matured by May 18, 2021.

Shelf Registration Statement and Significant New Borrowings – We filed an automatic shelf registration statement with the SEC that became effective on February 10, 2021. The Board of Directors authorized the issuance of up to $6 billion of debt securities, replacing the prior Board authorization in November 2019, which had $2.25 billion of authority remaining. Under our shelf registration, we may issue, from time to time any combination of debt securities, preferred stock, common stock, or warrants for debt securities or preferred stock in one or more offerings.

During 2021, we issued the following unsecured, fixed-rate debt securities under our shelf registration:

Date	*Description of Securities*
May 20, 2021	$850 million of 2.375% Notes due May 20, 2031
	$1.0 billion of 3.200% Notes due May 20, 2041
	$650 million of 3.550% Notes due May 20, 2061
September 10, 2021	$150 million of 2.375% Notes due May 20, 2031
	$850 million of 2.950% Notes due March 10, 2052

We used the net proceeds from the offerings for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs. These debt securities include change-of-control provisions. At December 31, 2021, we had remaining authority to issue up to $2.5 billion of debt securities under our shelf registration.

On February 3, 2022, the Board of Directors renewed its authorization for the Company to issue up to $12.0 billion of debt securities under the Shelf. This reauthorization replaces the authorization in 2021.

Receivables Securitization Facility – As of December 31, 2021 and 2020, we recorded $300 million and $0, respectively, of borrowings under our Receivables Facility, as secured debt. (See further discussion of our receivables securitization facility in Note 10.)

LIBOR Transition – Each of our $2.0 billion revolving credit facility, term loan, and Receivables Facility currently use LIBOR as the benchmark for the floating interest rates. Authorities that regulate LIBOR have announced plans to phase out LIBOR so that it will, at some point, cease to exist as a benchmark for floating interest rates. To address the phase out of LIBOR, the agreements for substantially all of these facilities include a mechanism to replace LIBOR with an alternative rate or benchmark under specified circumstances through an amendment to the agreements. As part of this process, we will need to renegotiate our agreements to reference that alternative rate or benchmark, and may need to modify our existing benchmark replacement language, or obtain replacement facilities.

Table of Contents

15. Variable Interest Entities

We have entered into various lease transactions in which the structure of the leases contain variable interest entities (VIEs). These VIEs were created solely for the purpose of doing lease transactions (principally involving railroad equipment and facilities) and have no other activities, assets, or liabilities outside of the lease transactions. Within these lease arrangements, we have the right to purchase some or all of the assets at fixed prices. Depending on market conditions, fixed-price purchase options available in the leases could potentially provide benefits to us; however, these benefits are not expected to be significant.

We maintain and operate the assets based on contractual obligations within the lease arrangements, which set specific guidelines consistent within the railroad industry. As such, we have no control over activities that could materially impact the fair value of the leased assets. We do not hold the power to direct the activities of the VIEs and, therefore, do not control the ongoing activities that have a significant impact on the economic performance of the VIEs. Additionally, we do not have the obligation to absorb losses of the VIEs or the right to receive benefits of the VIEs that could potentially be significant to the VIEs.

We are not considered to be the primary beneficiary and do not consolidate these VIEs because our actions and decisions do not have the most significant effect on the VIE’s performance and our fixed-price purchase options are not considered to be potentially significant to the VIEs. The future minimum lease payments associated with the VIE leases totaled $1.1 billion as of December 31, 2021, and are recorded as operating lease liabilities at present value in our Consolidated Statements of Financial Position.

16. Leases

We lease certain locomotives, freight cars, and other property for use in our rail operations.

The following are additional details related to our lease portfolio:

Millions	*Classification*	*Dec. 31, 2021*	*Dec. 31, 2020*
Assets			
Operating leases	Operating lease assets	$ 1,787	$ 1,610
Finance leases	Properties, net [a]	366	370
Total leased assets		$ 2,153	$ 1,980
Liabilities			
Current			
Operating	Accounts payable and other current liabilities	$ 330	$ 321
Finance	Debt due within one year	92	109
Noncurrent			
Operating	Operating lease liabilities	1,429	1,283
Finance	Debt due after one year	244	340
Total lease liabilities		$ 2,095	$ 2,053

[a] Finance lease assets are recorded net of accumulated amortization of $687 million and $737 million as of December 31, 2021 and 2020, respectively.

The lease cost components are classified as follows:

Millions	*Dec 31, 2021*	*Dec 31, 2020*
Operating lease cost [a]	$ 303	$ 317
Short-term lease cost	25	26
Variable lease cost	11	10
Finance lease cost		

Amortization of leased assets [b]	69	66
Interest on lease liabilities [c]	20	27
Net lease cost	$ 428	$ 446

[a] *Operating lease cost is primarily reported in equipment and other rents in our Consolidated Statements of Income.*

[b] *Amortization of leased assets is reported in depreciation in our Consolidated Statements of Income.*

[c] *Interest on lease liabilities is reported in interest expense in our Consolidated Statements of Income.*

The following table presents aggregate lease maturities as of December 31, 2021:

Millions	*Operating Leases*	*Finance Leases*	*Total*
2022	$ 333	$ 107	$ 440
2023	293	81	374
2024	285	68	353
2025	285	45	330
2026	215	36	251
After 2026	555	41	596
Total lease payments	$ 1,966	$ 378	$ 2,344
Less: Interest	207	42	249
Present value of lease liabilities	$ 1,759	$ 336	$ 2,095

The following table presents the weighted average remaining lease term and discount rate:

	Dec. 31, 2021
Weighted-average remaining lease term (years)	
Operating leases	7.3
Finance leases	4.8
Weighted-average discount rate (%)	
Operating leases	3.2
Finance leases	4.9

The following table presents other information related to our operating and finance leases for the years ended December 31:

Millions	*2021*	*2020*
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 292	$ 323
Investing cash flows from operating leases	27	30
Operating cash flows from finance leases	26	29
Financing cash flows from finance leases	106	113
Leased assets obtained in exchange for finance lease liabilities	-	-
Leased assets obtained in exchange for operating lease liabilities	442	93

17. Commitments and Contingencies

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Personal Injury – The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2021. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $325 million to $358 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions	***2021***	*2020*	*2019*
Beginning balance	**$ 270**	$ 265	$ 271
Current year accruals	**93**	72	78
Changes in estimates for prior years	**48**	(3)	(11)
Payments	**(86)**	(64)	(73)
Ending balance at December 31	**$ 325**	$ 270	$ 265
Current portion, ending balance at December 31	**$ 64**	$ 60	$ 63

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 376 sites where we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 28 sites that are the subject of actions taken by the U.S. government, 18 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

Our environmental liability activity was as follows:

Millions	***2021***	*2020*	*2019*
Beginning balance	**$ 233**	$ 227	$ 223
Accruals	**69**	76	67
Payments	**(59)**	(70)	(63)
Ending balance at December 31	**$ 243**	$ 233	$ 227
Current portion, ending balance at December 31	**$ 60**	$ 65	$ 62

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third-parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Insurance – The Company has a consolidated, wholly-owned captive insurance subsidiary (the captive), that provides insurance coverage for certain risks including FELA claims and property coverage that are subject to reinsurance. The captive entered into annual reinsurance treaty agreements that insure workers compensation, general liability, auto liability, and FELA risk. The captive cedes a portion of its FELA exposure through the treaty and assumes a proportionate share of the entire risk. The captive receives direct premiums, which are netted against the Company's premium costs in other expenses in the Consolidated Statements of Income. The treaty agreements provide for certain protections against the risk of treaty participants' non-performance, and we do not believe our exposure to treaty participants' non-performance is material at this time. We record both liabilities and reinsurance receivables using an actuarial analysis based on historical experience in our Consolidated Statements of Financial Position. Effective January 2019, the captive insurance subsidiary no longer participates in the reinsurance treaty agreement. The Company established a trust in the fourth quarter of 2018 for the purpose of providing collateral as required under the reinsurance treaty agreement for prior years' participation.

Indemnities – Our maximum potential exposure under indemnification arrangements, including certain tax indemnifications, can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

18. Share Repurchase Programs

Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions. As of December 31, 2021, we repurchased a total of $48.2 billion of our common stock since commencement of our repurchase programs in 2007. The table below represents shares repurchased under repurchase programs during 2021 and 2020:

	Number of Shares Purchased		*Average Price Paid [a]*	
	2021	*2020*	***2021***	*2020*
First quarter [b]	**6,691,421**	14,305,793	**$ 209.50**	$ 178.66
Second quarter [c]	**12,204,409**	-	**222.46**	-
Third quarter [d]	**8,604,239**	4,045,575	**210.31**	98.87
Fourth quarter	**5,837,551**	3,780,743	**233.71**	198.07
Total	**33,337,620**	22,132,111	**$ 218.69**	$ 167.39
Remaining number of shares that may be repurchased under current authority				77,685,350

[a] In the period of the final settlement, the average price paid under the accelerated share repurchase programs is calculated based on the total program value less the value assigned to the initial delivery of shares. The average price of the completed 2021 and 2020 accelerated share repurchase programs was $217.56 and $155.86, respectively.

[b] Includes 8,786,380 shares repurchased in February 2020 under accelerated share repurchase programs.

[c] Includes 7,209,156 shares repurchased in May 2021 under accelerated share repurchase programs.

[d] Includes an incremental 1,983,859 and 4,045,575 shares received upon final settlement in September 2021 and July 2020, respectively, under accelerated share repurchase programs.

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2022, through February 3, 2022, we repurchased 2.4 million shares at an aggregate cost of approximately $590 million.

On February 3, 2022, the Board of Directors approved a new share repurchase authorization, enabling the Company to buy up to 100 million of its common shares by March 31, 2025. The new authorization is effective April 1, 2022, and replaces the current authorization, which will expire on March 31, 2022.

Accelerated Share Repurchase Programs – The Company has established accelerated share repurchase programs (ASRs) with financial institutions to repurchase shares of our common stock. These ASRs have been structured so that at the time of commencement, we pay a specified amount to the financial institutions and receive an initial delivery of shares. Additional shares may be received at the time of settlement. The final number of shares to be received is based on the volume weighted average price of the Company's common stock during the ASR term, less a discount and subject to potential adjustments pursuant to the terms of such ASR.

On May 26, 2021, the Company received 7,209,156 shares of its common stock repurchased under ASRs for an aggregate of $2.0 billion. Upon settlement of these ASRs in the third quarter of 2021, we received 1,983,859 additional shares.

On February 19, 2020, the Company received 8,786,380 shares of its common stock repurchased under ASRs for an aggregate of $2.0 billion. Upon settlement of these ASRs in the third quarter of 2020, we received 4,045,575 additional shares.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

19. Related Parties

UPRR and other North American railroad companies jointly own TTX Company (TTX). UPRR has a 36.79% economic and voting interest in TTX while the other North American railroads own the remaining interest. In accordance with ASC 323 *Investments - Equity Method and Joint Venture*, UPRR applies the equity method of accounting to our investment in TTX.

TTX is a rail car pooling company that owns rail cars and intermodal wells to serve North America's railroads. TTX assists railroads in meeting the needs of their customers by providing rail cars in an efficient, pooled environment. All railroads have the ability to utilize TTX rail cars through car hire by renting rail cars at stated rates.

UPRR had $1.6 billion and $1.5 billion recognized as investments related to TTX in our Consolidated Statements of Financial Position as of December 31, 2021 and 2020, respectively. TTX car hire expenses of $375 million in 2021, $375 million in 2020, and $407 million in 2019 are included in equipment and other rents in our Consolidated Statements of Income. In addition, UPRR had accounts payable to TTX of $57 million and $59 million at December 31, 2021 and 2020, respectively.

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

None.

Item 9A. Controls and Procedures

As of the end of the period covered by this report, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation's management, including the Corporation's Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures pursuant to Exchange Act Rules 13a-15 and 15d-15. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based upon that evaluation, the CEO and the CFO concluded that, as of the end of the period covered by this report, the Corporation's disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized, and reported within the time periods specified by the SEC, and that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, the CEO and CFO determined that there were no changes to the Corporation's internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Union Pacific Corporation and Subsidiary Companies (the Corporation) is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2021. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control – Integrated Framework (2013)*. Based on our assessment, management believes that, as of December 31, 2021, the Corporation's internal control over financial reporting is effective based on those criteria.

The Corporation's independent registered public accounting firm has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting. This report appears on the next page.

February 3, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Union Pacific Corporation

Opinion on Internal Control over Financial Reporting

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

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Corporation and our report dated February 4, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Corporation'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 Corporation'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 Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 4, 2022

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

(a) Directors of Registrant.

Information as to the names, ages, positions, and offices with UPC, terms of office, periods of service, business experience during the past five years, and certain other directorships held by each director or person nominated to become a director of UPC is set forth in the Election of Directors segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee and the independence of its members, along with information about the audit committee financial expert(s) serving on the Audit Committee, is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

(b) Executive Officers of Registrant.

Information concerning the executive officers of UPC and its subsidiaries is presented in Part I of this report under Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries.

(c) Delinquent Section 16(a) Reports.

Information concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth in the Section 16(a) Beneficial Ownership Reporting Compliance segment of the Proxy Statement and is incorporated herein by reference.

(d) Code of Ethics for Chief Executive Officer and Senior Financial Officers of Registrant.

The Board of Directors of UPC has adopted the UPC Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the Code). A copy of the Code may be found on the Internet at our website www.up.com/investor/governance. We intend to disclose any amendments to the Code or any waiver from a provision of the Code on our website.

Item 11. Executive Compensation

Information concerning compensation received by our directors and our named executive officers is presented in the Compensation Discussion and Analysis, Summary Compensation Table, Grants of Plan-Based Awards in Fiscal Year 2021, Outstanding Equity Awards at 2021 Fiscal Year-End, Option Exercises and Stock Vested in Fiscal Year 2021, Pension Benefits at 2021 Fiscal Year-End, Nonqualified Deferred Compensation at 2021 Fiscal Year-End, Potential Payments Upon Termination or Change in Control and Director Compensation in Fiscal Year 2021 segments of the Proxy Statement and is incorporated herein by reference. Additional information regarding compensation of directors, including Board committee members, is set forth in the By-Laws of UPC and the Stock Unit Grant and Deferred Compensation Plan for the Board of Directors, both of which are included as exhibits to this report. Information regarding the Compensation and Benefits Committee is set forth in the Compensation Committee Interlocks and Insider Participation and Compensation Committee Report segments of the Proxy Statement and is incorporated herein by reference.

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

Information as to the number of shares of our equity securities beneficially owned by each of our directors and nominees for director, our named executive officers, our directors and executive officers as a group, and certain beneficial owners is set forth in the Security Ownership of Certain Beneficial Owners and Management segment of the Proxy Statement and is incorporated herein by reference.

Item 13. <u>Certain Relationships and Related Transactions and Director Independence</u>

Information on related transactions is set forth in the Certain Relationships and Related Transactions and Compensation Committee Interlocks and Insider Participation segments of the Proxy Statement and is incorporated herein by reference. We do not have any relationship with any outside third-party that would enable such a party to negotiate terms of a material transaction that may not be available to, or available from, other parties on an arm's-length basis.

Information regarding the independence of our directors is set forth in the Director Independence segment of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information concerning the fees billed by our independent registered public accounting firm and the nature of services comprising the fees for each of the two most recent fiscal years in each of the following categories: (i) audit fees, (ii) audit-related fees, (iii) tax fees, and (iv) all other fees, is set forth in the Independent Registered Public Accounting Firm's Fees and Services segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee's policies and procedures pertaining to pre-approval of audit and non-audit services rendered by our independent registered public accounting firm is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules, and Exhibits:

(1) Financial Statements

The financial statements filed as part of this filing are listed on the index to the Financial Statements and Supplementary Data, Item 8, on page 33.

(2) Financial Statement Schedules

Schedules have been omitted because they are not applicable or not required or the information required to be set forth therein is included in the Financial Statements and Supplementary Data, Item 8, or notes thereto.

(3) Exhibits

Exhibits are listed in the exhibit index beginning on page 64. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

UNION PACIFIC CORPORATION
Exhibit Index

Exhibit No.	Description
Filed with this Statement	
10(a)†	Form of Performance Stock Unit Agreement dated February 3, 2022.
10(b)†	Form of Non-Qualified Stock Option Agreement for Executives dated February 3, 2022.
10(c)†	Union Pacific Corporation Key Employee Continuity Plan, as amended December 10, 2021.
21	List of the Corporation's significant subsidiaries and their respective states of incorporation.
23	Independent Registered Public Accounting Firm's Consent.
24	Powers of attorney executed by the directors of UPC.
31(a)	

	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz.
31(b)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 –Jennifer L. Hamann.
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz and Jennifer L. Hamann.

101	The following financial and related information from Union Pacific Corporation's Annual Report on Form 10-K for the year ended December 31, 2021 (filed with the SEC on February 4, 2022), formatted in Inline Extensible Business Reporting Language (iXBRL) includes (i) Consolidated Statements of Income for the years ended December 31, 2021, 2020, and 2019, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2021, 2020, and 2019, (iii) Consolidated Statements of Financial Position at December 31, 2021 and 2020, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020, and 2019, (v) Consolidated Statements of Changes in Common Shareholders' Equity for the years ended December 31, 2021, 2020, and 2019, and (vi) the Notes to the Consolidated Financial Statements.
104	Cover Page Interactive Data File, formatted in Inline XBRL (contained in Exhibit 101).

Incorporated by Reference

3(a)	Restated Articles of Incorporation of UPC, as amended and restated through June 27, 2011, and as further amended May 15, 2014, are incorporated herein by reference to Exhibit 3(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.
3(b)	By-Laws of UPC, as amended, effective November 19, 2015, are incorporated herein by reference to Exhibit 3.2 to the Corporation's Current Report on Form 8-K dated November 19, 2015.
4(a)	Description of securities registered under Section 12 of the Exchange Act is incorporated herein by reference to Exhibit 4(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
4(b)	Indenture, dated as of December 20, 1996, between UPC and Wells Fargo Bank, National Association, as successor to Citibank, N.A., as Trustee, is incorporated herein by reference to Exhibit 4.1 to UPC's Registration Statement on Form S-3 (No. 333-18345).
4(c)	Indenture, dated as of April 1, 1999, between UPC and The Bank of New York, as successor to JP Morgan Chase Bank, formerly The Chase Manhattan Bank, as Trustee, is incorporated herein by reference to Exhibit 4.2 to UPC's Registration Statement on Form S-3 (No. 333-75989).
4(d)	Form of 2.375% Note due 2031 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated May 20, 2021.
4(e)	Form of 3.200% Note due 2041 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated May 20, 2021.
4(f)	Form of 3.550% Note due 2061 is incorporated by reference to Exhibit 4.3 to the Corporation's Current Report on Form 8-K dated May 20, 2021.
4(g)	Form of 2.375% Note due 2031 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated September 10, 2021.
4(h)	Form of 2.950% Note due 2052 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated September 10, 2021.

	Certain instruments evidencing long-term indebtedness of UPC are not filed as exhibits because the total amount of securities authorized under any single such instrument does not exceed 10% of the Corporation's total consolidated assets. UPC agrees to furnish the Commission with a copy of any such instrument upon request by the Commission.
10(d)†	Supplemental Thrift Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(e)†	Supplemental Thrift Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended January 1, 2018, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.
10(f)†	Supplemental Pension Plan for Officers and Managers (409A Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended February 1, 2013, and March 1, 2013 is incorporated herein by reference to Exhibit 10(f) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(g)†	Supplemental Pension Plan for Officers and Managers (409A Non-Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended December 9, 2020, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2020.

10(h)†	Deferred Compensation Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(b) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(i)†	Deferred Compensation Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended December 9, 2020, is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2020.
10(j)†	Union Pacific Corporation 2000 Directors Plan, effective as of April 21, 2000, as amended November 16, 2006, January 30, 2007 and January 1, 2009 is incorporated herein by reference to Exhibit 10(j) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(k)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Non-Grandfathered Component), effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(k) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(l)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Grandfathered Component), as amended and restated in its entirety, effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(l) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(m)†	UPC 2004 Stock Incentive Plan amended March 1, 2013, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(n)†	Union Pacific Corporation Policy for Recoupment of Incentive Compensation, effective January 1, 2020 is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(o)†	Union Pacific Corporation 2013 Stock Incentive Plan, effective May 16, 2013, as amended effective as of January 1, 2020 is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(p)†	Union Pacific Corporation Executive Incentive Plan, effective May 5, 2005, amended and restated effective January 1, 2020 is incorporated herein by reference to Exhibit 10(e) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(q)†	Union Pacific Corporation 2021 Stock Incentive Plan, effective as of May 13, 2021 is incorporated by reference to Exhibit 99.1 to the Corporation's Form S-8 dated May 25, 2021.
10(r)	Amended and Restated Registration Rights Agreement, dated as of July 12, 1996, among UPC, UP Holding Company, Inc., Union Pacific Merger Co. and Southern Pacific Rail Corporation (SP) is incorporated herein by reference to Annex J to the Joint Proxy Statement/Prospectus included in Post-Effective Amendment No. 2 to UPC's Registration Statement on Form S-4 (No. 33-64707).

10(s)	Agreement, dated September 25, 1995, among UPC, UPRR, Missouri Pacific Railroad Company (MPRR), SP, Southern Pacific Transportation Company (SPT), The Denver & Rio Grande Western Railroad Company (D&RGW), St. Louis Southwestern Railway Company (SLSRC) and SPCSL Corp. (SPCSL), on the one hand, and Burlington Northern Railroad Company (BN) and The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), on the other hand, is incorporated by reference to Exhibit 10.11 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(t)	Supplemental Agreement, dated November 18, 1995, between UPC, UPRR, MPRR, SP, SPT, D&RGW, SLSRC and SPCSL, on the one hand, and BN and Santa Fe, on the other hand, is incorporated herein by reference to Exhibit 10.12 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(u)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(v)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.

10(w)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2013.
10(x)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2013.
10(y)†	Form of 2019 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2018.
10(z)†	Form of 2020 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2019.
10(aa)†	Form of 2021 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2020.
10(bb)†	Executive Incentive Plan (2005) – Deferred Compensation Program, dated December 21, 2005 is incorporated herein by reference to Exhibit 10(g) to the Corporation’s Annual Report on Form 10-K for the year ended December 31, 2005.

† Indicates a management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

Table of Contents

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 4th day of February, 2022.

UNION PACIFIC CORPORATION

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific
Corporation

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, on this 4th day of February, 2022, by the following persons on behalf of the registrant and in the capacities indicated.

PRINCIPAL EXECUTIVE OFFICER
AND DIRECTOR:

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific Corporation

PRINCIPAL FINANCIAL OFFICER:

By /s/ Jennifer L. Hamann
Jennifer L. Hamann
Executive Vice President and
Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

By /s/ Todd M. Rynaski
Todd M. Rynaski,
Vice President and Controller

DIRECTORS:

Andrew H. Card, Jr.*	Jane H. Lute*
William J. DeLaney*	Michael R. McCarthy*
David B. Dillon*	Thomas F. McLarty III*
Sheri H. Edison*	Jose H. Villarreal*

Deborah C. Hopkins*	Christopher J. Williams*

* By /s/ Craig V. Richardson
Craig V. Richardson, Attorney-in-fact

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

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2020

OR

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

For the transition period from __________ to ____________

Commission File Number 1-6075

UNION PACIFIC CORPORATION
(Exact name of registrant as specified in its charter)

Utah	**13-2626465**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1400 Douglas Street, Omaha, Nebraska
(Address of principal executive offices)

68179
(Zip Code)

(402) 544-5000
(Registrant's telephone number, including area code)

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

Title of each Class	Trading Symbol	Name of each exchange on which registered
Common Stock (Par Value $2.50 per share)	**UNP**	**New York Stock Exchange**

- Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
  ☑ Yes ☐ No
- Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
  ☐ Yes ☑ No
- Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
  ☑ Yes ☐ No
- Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
  ☑ Yes ☐ No
- Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☑	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 accounting firm that prepared or issued its audit report.
  ☑
- Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).
  ☐ Yes ☑ No
- As of June 30, 2020, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was $113.5 billion.

The number of shares outstanding of the registrant's Common Stock as of January 29, 2021, was 669,829,363.

Documents Incorporated by Reference – Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 13, 2021, are incorporated by reference into Part III of this report. The registrant's Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

UNION PACIFIC CORPORATION
TABLE OF CONTENTS

February 5, 2021

Fellow Shareholders:

2020 was a year that no one anticipated. The COVID-19 pandemic impacted our country, economy, and Company in unimaginable ways. Our dedicated employees persevered throughout the year to deliver on our commitments to our customers while maintaining focus on the health and safety of themselves and their families. Despite this monumental challenge, we took another step on our journey to operational excellence. In 2020, we are reporting earnings per share of $7.88, which is a 6% decrease versus 2019, despite volume declines of 7%. Our operating ratio was a record 59.9%, 0.7 points better than last year's 60.6%. These results were negatively impacted by a one-time $278 million non-cash impairment charge that reduced earnings per share by $0.31 and increased operating ratio by 140 basis points.

Union Pacific's goal remains to be the best freight railroad in North America. Our strategy to achieve this goal is driven by a **Proud and Engaged Workforce**. Recognizing that a diverse workforce provides access to the skills and character we need to foster innovation and drive growth, in 2020 we announced long term goals to increase the representation of women and minorities in our workforce. Our employees are at the core of everything we do and critical to our success.

Picture 4To achieve operational excellence, we must provide the **Safest and Most Reliable Freight Rail Products and Services**. Our 2020 safety results demonstrate substantial improvement on rail incidents, while we held the line on personal injuries in a very challenging environment. We want our employees to return home safely every day and to eliminate derailments; our performance in 2020 has us moving in the right direction toward that goal.

We also made great strides in 2020 to improve the reliability of our service product despite tremendous volume swings as the U.S. economy first shut down, and then reopened. Trip plan compliance for both Intermodal and Manifest/Autos improved 6 points while we also improved freight car velocity 6%, demonstrating how we balanced asset utilization with meeting customer commitments.

Maintaining our focus on **Highly Efficient Operations**, we took significant steps to manage our assets better in 2020 as Locomotive and Workforce Productivity improved 14% and 11% year-over-year, respectively. Moving freight in a sustainable manner is tied to efficiency and is a priority for all stakeholders. Every carload of freight we take off the highway saves fuel, lowers emissions, and reduces highway congestion. In 2020, we announced our intention to set science-based targets in accordance with the Paris Agreement to reduce our greenhouse gas emissions. We took steps toward that target, reducing our fuel consumption rate by 2% versus 2019.

Combining an enhanced service product with advancing technology allows us to provide an **Industry-Leading Customer Experience** that is enabling us to **Secure Appropriate Business**. We are the industry leader in providing our customers with application programming interfaces (API), with over 30 services launched and more to come. These innovative offerings are allowing customers to integrate their systems with ours, creating a more seamless customer experience. We are winning in the marketplace with this approach as we welcomed new customers to our railroad in the intermodal, agricultural, industrial, and automotive industries, to name a few.

Together, our actions in 2020 position us to generate **Best-in-Industry Cash Returns**. We paid dividends in 2020 of $2.6 billion, as we maintained our dividend through the economic downturn. In addition, we repurchased 22 million Union Pacific shares, decreasing our full-year average share count by 4%. Combining dividends and share repurchases, Union Pacific returned $6.3 billion to our shareholders in 2020.

In 2020, we remained focused on **Optimal Investments** as we invested $2.84 billion. We completed 36 siding extensions, focused primarily in our Southern region, to invest for growth and productivity. Additionally, we continue to invest in energy management systems to reduce fuel consumption. Our new operating model is opening up capacity across our asset base, allowing us to be a more capital efficient business going forward.

While the economic outlook for 2021 remains uncertain, we are focused on building off our solid foundation to drive our efficiency and service to new heights. We plan to leverage this enhanced service product to drive growth and outpace what the markets naturally provide. We are committed to providing value to all of our stakeholders, understanding that we have a great responsibility to be a positive force in sustainability efforts. While the ride may have gotten a little bumpy in 2020, our confidence in our ability to drive growth and excellent returns has never been greater. Thank you for taking this journey with us.

Picture 5

Chairman, President and Chief Executive Officer

DIRECTORS AND SENIOR MANAGEMENT

BOARD OF DIRECTORS

Andrew H. Card, Jr.
Former White House
Chief of Staff
Board Committees: Compensation and Benefits, Corporate Governance and Nominating

William J. DeLaney
Former Chief Executive Officer,
Sysco Corporation
Board Committees: Audit, Compensation and Benefits (Chair)

David B. Dillon
Former Chairman
The Kroger Company
Board Committees: Audit (Chair), Compensation and Benefits

Lance M. Fritz
Chairman, President, and
Chief Executive Officer
Union Pacific Corporation and
Union Pacific Railroad Company

Deborah C. Hopkins
Former Chief Executive Officer
Citi Ventures
Former Chief Innovation Officer
Citi
Board Committees: Audit, Finance

Jane H. Lute
President and Chief Executive Officer
SICPA, North America
Board Committees: Audit, Corporate Governance and Nominating

Michael R. McCarthy
Chairman
McCarthy Group, LLC
Lead Independent Director
Board Committees: Corporate Governance and Nominating (Chair), Finance

Thomas F. McLarty III
President
McLarty Associates
Board Committees: Finance (Chair), Corporate Governance and Nominating

Bhavesh V. Patel
Chief Executive Officer
LyondellBasell Industries N.V.
Board Committees: Finance, Compensation and Benefits

Jose H. Villarreal
Retired Advisor
Akin, Gump, Strauss, Hauer, &
Feld, LLP
Board Committees: Compensation and Benefits, Corporate Governance and Nominating

Christopher J. Williams
Chairman
Siebert Williams Shank & Co.
Board Committees: Audit, Finance

SENIOR MANAGEMENT*

Lance M. Fritz
Chairman, President, and

Chief Executive Officer

Prentiss W. Bolin, Jr.
Vice President-External Relations

Bryan L. Clark
Vice President-Tax

Eric J. Gehringer
Executive Vice President-Operations

Gary W. Grosz
Vice President and Treasurer

Jennifer L. Hamann
Executive Vice President

and Chief Financial Officer

Rahul Jalali
Senior Vice President-Information Technologies and Chief Information Officer

Scott D. Moore
Senior Vice President-Corporate Relations and
Chief Administrative Officer

Jon T. Panzer
Senior Vice President-Strategic Planning

Clark J. Ponthier
Senior Vice President-Supply Chain and Continuous Improvement

Craig V. Richardson
Executive Vice President, Chief Legal
Officer, and Corporate Secretary

Kenny G. Rocker
Executive Vice President-Marketing and Sales

Todd M. Rynaski
Vice President and Controller

V. James Vena
Senior Advisor

Elizabeth F. Whited
Executive Vice President and
Chief Human Resource Officer

*Senior management are elected officers of both Union Pacific Corporation and Union Pacific Railroad Company, except Messrs. Gehringer, Ponthier, and Rocker are elected officers for Union Pacific Railroad Company.

PART I

Item 1. Business

GENERAL

Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation. One of America's most recognized companies, Union Pacific Railroad Company connects 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain. The Railroad's diversified business mix includes Bulk, Industrial, and Premium. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems, and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient, and environmentally responsible manner.

Union Pacific Corporation was incorporated in Utah in 1969 and maintains its principal executive offices at 1400 Douglas Street, Omaha, NE 68179. The telephone number at that address is (402) 544-5000. The common stock of Union Pacific Corporation is listed on the New York Stock Exchange (NYSE) under the symbol "UNP".

For purposes of this report, unless the context otherwise requires, all references herein to "UPC", "Corporation", "Company", "we", "us", and "our" shall mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which we separately refer to as "UPRR" or the "Railroad".

STRATEGY

Union Pacific's strategy is predicated on being the best freight railroad in North America, which is established through safety, service, reliability, and efficiency. That sets the foundation for growth, which, combined with increasing margins, creates long term enterprise value. We expect to generate growth in three ways – increasing profitable carloads that fit our network and transportation plan; providing more products and services to our customers; and increasing the geographic reach of our franchise.

The "how" also is evident. Operational excellence and an engaged workforce with deep market knowledge and strong customer relationships will result in best-in-class safety, a customer experience that drives growth, and shareholder returns. The following individual strategic elements work together driving Union Pacific forward:

- Safest and Most Reliable Freight Rail Products and Services.
- Highly Efficient Operations.
- Industry-Leading Customer Experience.
- Secure Appropriate Business.
- Best-in-industry Cash Returns.
- Optimal Investment.
- Proud and Engaged Workforce.

As we transform our railroad into the safest, most reliable, and most efficient in North America, our values will continue guiding us: Our passion for performance will help us win; our high ethical standards will ensure we do not win at the expense of any one stakeholder; and our teamwork will make sure we win together.

To assist us in accomplishing our goal of being the best freight railroad in North America, we announced our efficiency and business growth initiative of G55+0 (grow to an operating ratio of 55 with zero injuries), which was launched in late 2015. Additionally, beginning in October 2018, we began conversion to precision scheduled railroading (PSR) in an effort to streamline operations with four principles:

1. Shift the focus of operations from moving trains to moving cars.
2. Minimize car dwell, car classification events, and locomotive power requirements.
3. Utilize general-purpose trains by blending existing train service.
4. Balance train movements to improve the utilization of crews and rail assets.

We want to move cars faster, reducing the number of times each is touched, resulting in terminal consolidation opportunities, improved asset utilization, and fewer car classifications, allowing product to get to the market quicker and more reliably. The end result is we are delivering a better customer experience, which will enable us to grow our market share.

OPERATIONS

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide revenue by commodity group, we analyze the net financial results of the Railroad as one segment due to the integrated nature of our rail network. Additional information regarding our business and operations, including revenues, financial information and data, and other information regarding environmental matters, is presented in Risk Factors, Item 1A; Legal Proceedings, Item 3; Selected Financial Data, Item 6; Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7; and the Financial Statements and Supplementary Data, Item 8 (which include information regarding revenues, statements of income, and total assets).

Operations – UPRR is a Class I railroad operating in the U.S. We have 32,313 route miles, connecting Pacific Coast and Gulf Coast ports with the Midwest and eastern U.S. gateways and providing several corridors to key Mexican gateways. We serve the Western two-thirds of the country and maintain coordinated schedules with other rail carriers to move freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic moves through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. In 2020, we generated freight revenues totaling $18.3 billion from the following three commodity groups:

2020 Freight Revenue
Picture 1

Bulk – The Company's Bulk shipments consist of grain and grain products, fertilizer, food and refrigerated, and coal and renewables. In 2020, this group generated 33% of our freight revenue. We access most major grain markets, connecting the Midwest and Western U.S. producing areas to export terminals in the Pacific Northwest and Gulf Coast ports, as well as Mexico. We also serve significant domestic markets, including grain processors, animal feeders, and ethanol producers in the Midwest and West. Fertilizer movements originate in the Gulf Coast region, Midwest, western U.S., and Canada (through interline access) for delivery to major agricultural users in those areas as well as abroad. The Railroad's network supports the transportation of coal shipments to independent and regulated power companies and industrial facilities throughout the U.S. Through interchange gateways and ports, UPRR's reach extends to eastern U.S. utilities as well as to Mexico and other international destinations. Coal traffic originating in the Powder River Basin (PRB) area of Wyoming is the largest segment of the Railroad's coal business. Renewable shipments for customers committed to sustainability consist primarily of biomass exports and wind turbine components.

Industrial – Our extensive network facilitates the movement of numerous commodities between thousands of origin and destination points throughout North America. The Industrial group consists of several categories, including construction, industrial chemicals, plastics, forest products, specialized products (primarily waste, salt, roofing, and government), metals and ores, petroleum, liquid petroleum gases (LPG), and soda ash. Transportation of these products accounted for 36% of our freight revenue in 2020. Commercial, residential, and governmental infrastructure investments drive shipments of steel, aggregates, cement, and wood products. Industrial and light manufacturing plants receive steel, nonferrous materials, minerals, and other raw materials.

The industrial chemicals market consists of a vast number of chemical compounds that support the manufacturing of more complex chemicals. Plastics shipments support automotive, housing, and the durable and disposable consumer goods markets. Forest product shipments include lumber and paper commodities. Lumber shipments originate primarily in the Pacific Northwest or western Canada and move

throughout the U.S. for use in new home construction and repairs and remodeling. Paper shipments primarily support packaging needs. Oil and gas drilling generates demand for raw steel, finished pipe, stone, and drilling fluid commodities. The Company's petroleum and LPG shipments are primarily impacted by refinery utilization rates, regional crude pricing differentials, pipeline capacity, and the use of asphalt for road programs. Soda ash originates in southwestern Wyoming and California, destined for chemical and glass producing markets in North America and abroad.

Premium – In 2020, Premium shipments generated 31% of Union Pacific's total freight revenue. Premium includes finished automobiles, automotive parts, and merchandise in intermodal containers, both domestic and international. International business consists of import and export traffic moving in 20 or 40-foot shipping containers, that mainly pass through West Coast ports served by UP's extensive terminal network. Domestic business includes container and trailer traffic picked up and delivered within North America for intermodal marketing companies (primarily shipper agents and logistics companies) as well as truckload carriers.

We are the largest automotive carrier west of the Mississippi River and operate or access 38 vehicle distribution centers. The Railroad's extensive franchise serves five vehicle assembly plants and connects to West Coast ports, all six major Mexico gateways, and the Port of Houston to accommodate both import and export shipments. In addition to transporting finished vehicles, UPRR provides expedited handling of automotive parts in both boxcars and intermodal containers destined for Mexico, the U.S., and Canada.

Seasonality – Some of the commodities we carry have peak shipping seasons, reflecting either or both the nature of the commodity and the demand cycle for the commodity (such as certain agricultural and food products that have specific growing and harvesting seasons). The peak shipping seasons for these commodities can vary considerably each year depending upon various factors, including the strength of domestic and international economies and currencies and the strength of harvests and market prices for agricultural products.

Proud & Engaged Workforce – We recruit and develop talented individuals dedicated to our mission of service and who are passionate about performing to the best of their abilities while working as one team. We recognize and value that people come from all backgrounds and walks of life, and we value diversity. Union Pacific wants employees from all groups to launch and grow their career within the Company.

Attracting, acquiring, and maintaining a diverse workforce provides access to the skills and character we need to foster innovative ideas and drive optimal business growth. Drawing on different experiences and expertise is critical for strategic decision-making, problem-solving, leadership development, and creativity.

Union Pacific's commitment – today and for the long run, is to further improve and strengthen performance through an inclusive workforce that reflects the diverse markets and communities we serve. Recognizing we still have work to do, we continue to focus on building an inclusive culture and a talented workforce and marketplace with a goal to reach 40% minority and 11% female representation in total for the Company by 2030. As of December 31, 2020, workforce representation of minorities and females was approximately 30% and 6%, respectively.

Safety is Union Pacific's first priority. We continue to improve technology, enhance processes, and foster a culture focused on operating safely as well as remaining focused on identifying and managing risks and training our employees. Our success is measured by our personal injury rate (the number of reportable injuries for every 200,000 employee-hours worked), and our equipment incident rate (the number of reportable equipment incidents per million train miles). We provide both measures to the Federal Railroad Administration (FRA). Personal injuries are defined as on duty incidents or occupational illnesses that require employees to lose time away from work, modify their normal duties, or receive certain types of medical treatment. Equipment incidents are defined as any occurrence that causes damage to assets above the monetary reporting threshold regardless of ownership ($10,700 for 2020 and $11,200 for 2021).

Our goal is to have every employee return home safely every day. Unfortunately, our 2020 personal injury rate of 0.90 and equipment incident rate of 3.54 illustrates that we have not met our ultimate goal of an incident free environment. Our 2020 personal injury rate was flat and our equipment incident rate improved 17% versus 2019. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, of this report.)

Providing employees with fulfilling, family-supporting careers is important to us. We offer competitive compensation to our employees and leadership. Our Board of Directors evaluates our compensation plans

and reviews recommendations from the Compensation and Benefits Committee. The median annual compensation for all our employees who were employed as of December 31, 2020, was $77,778 (excluding the CEO).

Approximately 83% of our full-time employees are represented by 13 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The current round of negotiations began on January 1, 2020, related to years 2020-2024. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare (see "*Strikes or Work Stoppages Could Adversely Affect Our Operations*" in the Risk Factors in Item 1A of this report).

Railroad Security – Our security efforts consist of a wide variety of measures, including employee training, engagement with our customers, training of emergency responders, and partnerships with numerous federal, state, and local government agencies. While federal law requires us to protect the confidentiality of our security plans designed to safeguard against terrorism and other security incidents, the following provides a general overview of our security initiatives.

UPRR Security Measures – We maintain a comprehensive security plan designed to both deter and respond to any potential or actual threats as they arise. The plan includes four levels of alert status, each with its own set of countermeasures. We employ our own police force, consisting of commissioned and highly-trained officers. The police are certified state law enforcement officers with investigative and arrest powers. The Union Pacific Police Department has achieved accreditation under the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA) for complying with the highest law enforcement standards. Our employees also undergo recurrent security and preparedness training as well as federally-mandated hazardous materials and security training. We regularly review the sufficiency of our employee training programs. We maintain the capability to move critical operations to back-up facilities in different locations.

We operate an emergency response management center 24 hours a day. The center receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, law enforcement, and other government officials. In cooperation with government officials, we monitor both threats and public events, and, as necessary, we may alter rail traffic flow at times of concern to minimize risk to communities and our operations. We comply with the hazardous materials routing rules and other requirements imposed by federal law. We also design our operating plan to expedite the movement of hazardous material shipments to minimize the time rail cars remain idle at yards and terminals located in or near major population centers. Additionally, in compliance with Transportation Security Agency regulations, we deployed information systems and instructed employees in tracking and documenting the handoff of Rail Security Sensitive Materials with customers and interchange partners.

We also have established a number of our own innovative safety and security-oriented initiatives ranging from various investments in technology to The Officer on Train program, which provides local law enforcement officers with the opportunity to ride with train crews to enhance their understanding of railroad operations and risks. Our staff of information security professionals continually assesses cyber security risks and implements mitigation programs that evolve with the changing technology threat environment. To date, we have not experienced any material disruption of our operations due to a cyber threat or attack directed at us. We also evaluated details regarding the SolarWinds supply chain attack, and do not believe our systems were affected.

Cooperation with Federal, State, and Local Government Agencies – We work closely on physical and cyber security initiatives with government agencies, including the U.S. Department of Transportation (DOT), the Department of Homeland Security (DHS), as well as local police departments, fire departments, and other first responders. In conjunction with the Association of American Railroads (AAR), we sponsor Ask Rail, a mobile application which provides first responders with secure links to electronic information, including commodity and emergency response information required by emergency personnel to respond to accidents and other situations. We also participate in the National Joint Terrorism Task Force, a multi-agency effort established by the U.S. Department of Justice and the Federal Bureau of Investigation to combat and prevent terrorism.

We work with the Coast Guard, U.S. Customs and Border Protection (CBP), and the Military Transport Management Command, which monitor shipments entering the UPRR rail network at U.S. border crossings and ports. We were the first railroad in the U.S. to be named a partner in CBP's Customs-Trade Partnership

Against Terrorism, a partnership designed to develop, enhance, and maintain effective security processes throughout the global supply chain.

Cooperation with Customers and Trade Associations – Through TransCAER (Transportation Community Awareness and Emergency Response), we work with the AAR, the American Chemistry Council, the American Petroleum Institute, and other chemical trade groups to provide communities with preparedness tools, including the training of emergency responders. In cooperation with the FRA and other interested groups, we are also working to develop additional improvements to tank car design that will further limit the risk of releases of hazardous materials.

Competition – see "*We Face Competition from Other Railroads and Other Transportation Providers*" in the Risk Factors in Item 1A of this report.

Key Suppliers – see "*We Are Dependent on Certain Key Suppliers of Locomotives and Rail*" in the Risk Factors in Item 1A of this report.

Available Information – Our Internet website is www.up.com. We make available free of charge on our website (under the "Investors" caption link) our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; our current reports on Form 8-K; our proxy statements; Forms 3, 4, and 5, filed on behalf of our directors and certain executive officers; and amendments to such reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act). We provide these reports and statements as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). We also make available on our website previously filed SEC reports and exhibits via a link to EDGAR on the SEC's Internet site at www.sec.gov. Additionally, our corporate governance materials, including By-Laws, Board Committee charters, governance guidelines and policies, and codes of conduct and ethics for directors, officers, and employees are available on our website. From time to time, the corporate governance materials on our website may be updated as necessary to comply with rules issued by the SEC and the NYSE or as desirable to promote the effective and efficient governance of our Company. Any security holder wishing to receive, without charge, a copy of any of our SEC filings or corporate governance materials should send a written request to: Secretary, Union Pacific Corporation, 1400 Douglas Street, Omaha, NE 68179.

References to our website address in this report, including references in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, are provided as a convenience and do not constitute, and should not be deemed, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

GOVERNMENTAL AND ENVIRONMENTAL REGULATION

Governmental Regulation – Our operations are subject to a variety of federal, state, and local regulations, generally applicable to all businesses. (See also the discussion of certain regulatory proceedings in Legal Proceedings, Item 3.)

The operations of the Railroad are also subject to the regulatory jurisdiction of the Surface Transportation Board (STB). The STB has jurisdiction over rates charged on certain regulated rail traffic; common carrier service of regulated traffic; freight car compensation; transfer, extension, or abandonment of rail lines; and acquisition of control of rail common carriers. The STB continues its efforts to explore expanding rail regulation and is reviewing proposed rulemaking in various areas, including reciprocal switching, commodity exemptions, and expanding and easing procedures for smaller rate complaints. The STB also continues to develop a methodology for determining railroad revenue adequacy and the possible use of a revenue adequacy constraint in regulating railroad rates. The STB posts quarterly reports on rate reasonableness cases and maintains a database on service complaints, and has the authority to initiate investigations, among other things.

The operations of the Railroad also are subject to the regulations of the FRA and other federal and state agencies. In 2010, the FRA issued initial rules governing installation of Positive Train Control (PTC). PTC is a safety technology intended to prevent certain accidents caused by human error, such as train-to-train collisions, derailments caused by overspeed, movement of a train through a misaligned switch, and unauthorized movement of trains into work zones. The Surface Transportation Extension Act of 2015 amended the Rail Safety Improvement Act to require implementation of PTC by the end of 2018, which was extended to December 31, 2020. On December 10, 2018, we received FRA approval for an alternative schedule to implement, test, and refine our PTC system during 2019-2020. As of December 31, 2020, PTC

has been implemented and installed on 100 percent of our required rail lines, including required passenger train routes, and interoperability has been established with all other PTC host and tenant railroads. Through 2020, we have invested approximately $2.9 billion in the implementation and ongoing development of PTC. We are now moving to further leverage the PTC system through development and implementation of new operating technologies, such as fuel and in-train forces management systems.

DOT, the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and DHS, along with other federal agencies, have jurisdiction over certain aspects of safety, movement of hazardous materials and hazardous waste, emissions requirements, and equipment standards. Additionally, various state and local agencies have jurisdiction over disposal of hazardous waste and seek to regulate movement of hazardous materials in ways not preempted by federal law.

Environmental Regulation – We are subject to extensive federal and state environmental statutes and regulations pertaining to public health and the environment. The statutes and regulations are administered and monitored by the Environmental Protection Agency (EPA) and by various state environmental agencies. The primary laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating waste water discharges.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7, and Note 17 to the Consolidated Financial Statements in Item 8, Financial Statements and Supplementary Data.

Item 1A. Risk Factors

The following discussion addresses significant factors, events, and uncertainties that make an investment in our securities risky and provides important information for the understanding of our "forward-looking statements," which are discussed immediately preceding Item 7A of this Form 10-K and elsewhere. The risk factors set forth in this Item 1A should be read in conjunction with the rest of the information included in this report, including Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and Financial Statements and Supplementary Data, Item 8.

We urge you to consider carefully the factors described below and the risks that they present for our operations as well as the risks addressed in other reports and materials that we file with the SEC and the other information included or incorporated by reference in this Form 10-K. When the factors, events, and contingencies described below or elsewhere in this Form 10-K materialize, our business, reputation, financial condition, results of operations, cash flows, or prospects can be materially adversely affected. In such case, the trading price of our common stock could decline and you could lose part or all of your investment. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also materially adversely affect our business, reputation, financial condition, results of operations, cash flows, and prospects.

Strategic and Operational Risks

We Must Manage Fluctuating Demand for Our Services and Network Capacity – If there are significant reductions in demand for rail services with respect to one or more commodities or changes in consumer preferences that affect the businesses of our customers, we may experience increased costs associated with resizing our operations, including higher unit operating costs and costs for the storage of locomotives, rail cars, and other equipment; work-force adjustments; and other related activities, which could have a material adverse effect on our results of operations, financial condition, and liquidity. If there is significant demand for our services that exceeds the designed capacity of our network, we may experience network difficulties, including congestion and reduced velocity, that could compromise the level of service we provide to our customers. This level of demand may also compound the impact of weather and weather-related events on our operations and velocity. Although we continue to improve our transportation plan, add capacity, improve operations at our yards and other facilities, and improve our ability to address surges in demand for any reason with adequate resources, we cannot be sure that these measures will fully or adequately address any service shortcomings resulting from demand exceeding our planned capacity. We may experience other operational or service difficulties related to network capacity, dramatic and unplanned fluctuations in our customers' demand for rail service with respect to one or more commodities or operating

regions, or other events that could negatively impact our operational efficiency, which could all have a material adverse effect on our results of operations, financial condition, and liquidity.

We Transport Hazardous Materials – We transport certain hazardous materials and other materials, including crude oil, ethanol, and toxic inhalation hazard (TIH) materials, such as chlorine, that pose certain risks in the event of a release or combustion. Additionally, U.S. laws impose common carrier obligations on railroads that require us to transport certain hazardous materials regardless of risk or potential exposure to loss. A rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release or combustion of hazardous materials could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation in excess of our insurance coverage for these risks, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Rely on Technology and Technology Improvements in Our Business Operations – We rely on information technology in all aspects of our business, including technology systems operated by us or under control of third parties. If we do not have sufficient capital to acquire, develop, or implement new technology or maintain or upgrade current systems, such as PTC or the latest version of our transportation control systems, we may suffer a competitive disadvantage within the rail industry and with companies providing other modes of transportation service, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Cybersecurity Risks – We rely on information technology in all aspects of our business, including technology systems operated by us or under control of third parties. Although we devote significant resources to protect our technology systems and proprietary data, we have experienced and will continue to experience varying degrees of cyber incidents in the normal course of business. While there can be no assurance that the systems we have designed to prevent or limit the effects of cyber incidents or attacks will be sufficient to prevent or detect such incidents or attacks, or to avoid a material adverse impact on our systems after such incidents or attacks do occur, we are continually evaluating attackers' techniques and tactics, and we are diligent in our monitoring, training, planning, and prevention. However, due to the rising rates and increasing sophistication of cyber-attacks, an increasingly complex IT supply chain, and the nature of zero-day exploits, we may be unable to anticipate or implement adequate preventative measures to prevent a security breach, including by ransomware, human error, or other cyber-attack methods, from disrupting our systems or the systems of third parties. A successful cyber-attack may result in significant service interruption; safety failure; other operational difficulties; unauthorized access to (or the loss of access to) competitively sensitive, confidential, or other critical data or systems; loss of customers; financial losses; regulatory fines; and misuse or corruption of critical data and proprietary information, which could all have a material adverse impact on our results of operations, financial condition, and liquidity. We also may experience security breaches that could remain undetected for an extended period and, therefore, have a greater impact on the services we offer.

Severe Weather Could Result in Significant Business Interruptions and Expenditures – As a railroad with a vast network, we are exposed to severe weather conditions and other natural phenomena, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures, avalanches, and significant precipitation. Line outages and other interruptions caused by these conditions can adversely affect our entire rail network, potentially negatively affecting revenue, costs, and liabilities, despite efforts we undertake to plan for these events. Our revenues can also be adversely affected by severe weather that causes damage and disruptions to our customers. These impacts caused by severe weather could have a material adverse effect on our results of operations, financial condition, and liquidity.

A Significant Portion of Our Revenue Involves Transportation of Commodities to and from International Markets – Although revenues from our operations are attributable to transportation services provided in the U.S., a significant portion of our revenues involves the transportation of commodities to and from international markets, including Mexico, Canada, and Southeast Asia, by various carriers and, at times, various modes of transportation. Significant and sustained interruptions of trade with Mexico, Canada, or countries in Southeast Asia, including China, could adversely affect customers and other entities that, directly or indirectly, purchase or rely on rail transportation services in the U.S. as part of their operations, and any such interruptions could have a material adverse effect on our results of operations, financial condition, and liquidity. Any one or more of the following could cause a significant and sustained interruption of trade with Mexico, Canada, or countries in Southeast Asia: (a) a deterioration of security for international trade and businesses; (b) the adverse impact of new laws, rules, and regulations or the interpretation of laws, rules, and regulations by government entities, courts, or regulatory bodies, including the United States-Mexico-Canada Agreement (USMCA) and a "Phase One" trade agreement with China; (c) actions

of taxing authorities that affect our customers doing business in foreign countries; (d) any significant adverse economic developments, such as extended periods of high inflation, material disruptions in the banking sector or in the capital markets of these foreign countries, and significant changes in the valuation of the currencies of these foreign countries that could materially affect the cost or value of imports or exports; (e) shifts in patterns of international trade that adversely affect import and export markets; (f) a material reduction in foreign direct investment in these countries; and (g) public health crises, including the outbreak of pandemic or contagious disease, such as the novel coronavirus and its variant strains.

We Are Dependent on Certain Key Suppliers of Locomotives and Rail – Due to the capital intensive nature and sophistication of locomotive equipment, parts, and maintenance, potential new suppliers face high barriers to entry. Therefore, if one of the domestic suppliers of high horsepower locomotives discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including bankruptcy or insolvency, we could experience significant cost increases and reduced availability of the locomotives that are necessary for our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical to our operations for rail replacement programs, maintenance, and for adding additional network capacity, new rail and storage yards, and expansions of existing facilities. This industry similarly has high barriers to entry, and if one of these suppliers discontinues operations for any reason, including bankruptcy or insolvency, we could experience both significant cost increases for rail purchases and difficulty obtaining sufficient rail for maintenance and other projects. Changes to trade agreements or policies that result in increased tariffs on goods imported into the United States could also result in significant cost increases for rail purchases and difficulty obtaining sufficient rail.

Human Capital Risks

Strikes or Work Stoppages Could Adversely Affect Our Operations – The U.S. Class I railroads are party to collective bargaining agreements with various labor unions. The majority of our employees belong to labor unions and are subject to these agreements. Disputes with regard to the terms of these agreements or our potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns, or lockouts, which could cause a significant disruption of our operations and have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could compromise our service reliability or significantly increase our costs for health care, wages, and other benefits, which could have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts at loading/unloading facilities, ports, or other transport access points could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts by employees of our customers or our suppliers could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity.

The Availability of Qualified Personnel Could Adversely Affect Our Operations – Changes in demographics, training requirements, and the availability of qualified personnel, including the effects on availability from pandemic illnesses or restrictions, could negatively affect our ability to meet demand for rail service. Unpredictable increases in demand for rail services and a lack of network fluidity may exacerbate such risks, which could have a negative impact on our operational efficiency and otherwise have a material adverse effect on our results of operations, financial condition, and liquidity.

Legal and Regulatory Risks

We Are Subject to Significant Governmental Regulation – We are subject to governmental regulation by a significant number of federal, state, and local authorities covering a variety of health, safety, labor, environmental, economic (as discussed below), tax, and other matters. Many laws and regulations require us to obtain and maintain various licenses, permits, and other authorizations, and we cannot guarantee that we will continue to be able to do so. Our failure to comply with applicable laws and regulations could have a material adverse effect on us. Governments or regulators may change the legislative or regulatory frameworks within which we operate without providing us any recourse to address any adverse effects on our business, including, without limitation, regulatory determinations or rules regarding dispute resolution, increasing the amount of our traffic subject to common carrier regulation, business relationships with other railroads, calculation of our cost of capital or other inputs relevant to computing our revenue adequacy, the prices we charge, changes in tax rates, enactment of new tax laws, and revision in tax regulations. Significant legislative activity in Congress or regulatory activity by the STB could expand regulation of

railroad operations and prices for rail services, which could reduce capital spending on our rail network, facilities, and equipment, and have a material adverse effect on our results of operations, financial condition, and liquidity. For example, enacted federal legislation mandated the implementation of PTC technology by December 31, 2020, which we invested approximately $2.9 billion to develop. Additionally, one or more consolidations of Class I railroads also could lead to increased regulation of the rail industry.

We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures – As a railroad with operations in densely populated urban areas and a vast rail network, we are exposed to the potential for various claims and litigation related to labor and employment, personal injury, property damage, environmental liability, and other matters. Any material changes to litigation trends or a catastrophic rail accident or series of accidents involving any or all of property damage, personal injury, and environmental liability that exceed our insurance coverage for such risks could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Environmental Laws and Regulations – Due to the nature of the railroad business, our operations are subject to extensive federal, state, and local environmental laws and regulations concerning, among other things, emissions to the air; discharges to waters; handling, storage, transportation, and disposal of waste and other materials; and hazardous material or petroleum releases. We generate and transport hazardous and non-hazardous waste in our operations. Environmental liability can extend to previously owned or operated properties, leased properties, properties owned by third parties, as well as properties we currently own. Environmental liabilities have arisen and may also arise from claims asserted by adjacent landowners or other third parties in toxic tort litigation. We have been and may be subject to allegations or findings that we have violated, or are strictly liable under, these laws or regulations. We currently have certain obligations at existing sites for investigation, remediation, and monitoring, and we likely will have obligations at other sites in the future. Liabilities for these obligations affect our estimate based on our experience and, as necessary, the advice and assistance of our consultants. However, actual costs may vary from our estimates due to any or all of several factors, including changes to environmental laws or interpretations of such laws, technological changes affecting investigations and remediation, the participation and financial viability of other parties responsible for any such liability, and the corrective action or change to corrective actions required to remediate any existing or future sites. We could incur significant costs as a result of any of the foregoing, and we may be required to incur significant expenses to investigate and remediate known, unknown, or future environmental contamination, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

Macroeconomic and Industry Risks

We Face Competition from Other Railroads and Other Transportation Providers – We face competition from other railroads, motor carriers, ships, barges, and pipelines. Our main railroad competitor is Burlington Northern Santa Fe LLC. Its primary subsidiary, BNSF Railway Company (BNSF), operates parallel routes in many of our main traffic corridors. In addition, we operate in corridors served by other railroads and motor carriers. Motor carrier competition exists for all three of our commodity groups (excluding most coal shipments). Because of the proximity of our routes to major inland and Gulf Coast waterways, barges can be particularly competitive, especially for grain and bulk commodities in certain areas where we operate. In addition to price competition, we face competition with respect to transit times, quality, and reliability of service from motor carriers and other railroads. Motor carriers in particular can have an advantage over railroads with respect to transit times and timeliness of service. However, railroads are much more fuel-efficient than trucks, which reduces the impact of transporting goods on the environment and public infrastructure, and we have been making efforts to convert truck traffic to rail. Additionally, we must build or acquire and maintain our rail system, while trucks, barges, and maritime operators are able to use public rights-of-way maintained by public entities. Any of the following could also affect the competitiveness of our transportation services for some or all of our commodities, which could have a material adverse effect on our results of operations, financial condition, and liquidity: (i) improvements or expenditures materially increasing the quality or reducing the costs of these alternative modes of transportation, such as autonomous or more fuel efficient trucks, (ii) legislation that eliminates or significantly increases the size or weight limitations applied to motor carriers, or (iii) legislation or regulatory changes that impose operating restrictions on railroads or that adversely affect the profitability of some or all railroad traffic. Many movements face product or geographic competition where our customers can use different products (e.g. natural gas instead of coal, sorghum instead of corn) or commodities from different locations (e.g. grain from states or countries that we do not serve, crude oil from different regions). Sourcing different commodities or different locations allows shippers to substitute different carriers and such competition may reduce our volume or constrain prices. Additionally, any future consolidation of the rail industry could materially affect our competitive environment.

We May Be Affected by Climate Change and Market or Regulatory Responses to Climate Change – Climate change, including the impact of global warming, could have a material adverse effect on our results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of greenhouse gasses, including diesel exhaust, could significantly increase our operating costs. Restrictions on emissions could also affect our customers that (a) use commodities that we carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities we carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers and food producers, and automakers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy or emissions reductions could materially affect the markets for the commodities we carry, which in turn could have a material adverse effect on our results of operations, financial condition, and liquidity. Government incentives encouraging the use of alternative sources of energy also could affect certain of our customers and the markets for certain of the commodities we carry in an unpredictable manner that could alter our traffic patterns, including, for example, increasing royalties charged to producers of PRB coal by the U.S. Department of Interior and the impacts of ethanol incentives on farming and ethanol producers. We could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change. Violent weather caused by climate change, including earthquakes, hurricanes, fires, floods, extreme temperatures, avalanches, and significant precipitation could cause line outages and other interruptions to our infrastructure. Any of these factors, individually or in operation with one or more of the other factors, or other unforeseen impacts of climate change could reduce the amount of traffic we handle and have a material adverse effect on our results of operations, financial condition, and liquidity.

Our business, financial condition, and results of operations have been adversely affected and in the future could be materially adversely affected by pandemics – Our business, financial condition, and results of operations have been adversely affected by the coronavirus (COVID-19) pandemic and may be affected by other pandemics. COVID-19 has caused, and is expected to continue to cause, a global slowdown of economic activity (including the decrease in demand for a broad variety of goods), disruptions in global supply chains, and significant volatility and disruption of financial markets and that also has adversely affected workforces, customers, and regional and local economies. Other future pandemics may cause these same or similar consequences. Because the severity, magnitude, and duration of the COVID-19 pandemic and its economic consequences are uncertain, rapidly changing, and difficult to predict, the impact on our business and financial condition remains uncertain and difficult to predict. The ultimate impact of the COVID-19 pandemic on our results of operations and financial condition remains uncertain and depends on numerous evolving factors, which we may not be able to effectively respond to and are not entirely within our control. These factors also may be of importance for other pandemics, including, but not limited to: governmental, business, and individuals' actions that have been and continue to be taken in response to a global pandemic (including restrictions on travel and transport, workforce pressures, and social distancing, and shelter-in-place orders); the effect of a pandemic on economic activity and actions taken in response; the effect on our customers and their demand for our services; the effect of a pandemic on the credit-worthiness of our customers; national or global supply chain challenges or disruption; facility closures; commodity cost volatility; general economic uncertainty in key global markets and financial market volatility; global economic conditions and levels of economic growth; and the pace of recovery as the pandemic subsides as well as response to a potential reoccurrence. Further, a pandemic, and the volatile regional and global economic conditions stemming from a pandemic, could also precipitate and aggravate the other risk factors that we identify, which could materially adversely affect our business, financial condition, results of operations (including revenues and profitability), and/or stock price. Additionally, a pandemic also may affect our operating and financial results in a manner that is not presently known to us or that we currently do not consider to present significant risks to our operations.

Financial Risks

We Are Affected By Fluctuating Fuel Prices – Fuel costs constitute a significant portion of our transportation expenses. Diesel fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on our operating results. Although we currently are able to recover a significant amount of our fuel expenses from our customers through revenue from fuel surcharges, we cannot be certain that we will always be able to mitigate rising or elevated fuel costs through our fuel surcharges. Additionally, future market conditions or legislative or regulatory activities could adversely affect our ability to apply fuel surcharges or adequately recover increased fuel costs through fuel surcharges. As fuel prices fluctuate, our fuel surcharge programs trail such fluctuations in fuel price by approximately two months, and may be a significant source of quarter-over-quarter and year-over-year

volatility, particularly in periods of rapidly changing prices. International, political, and economic factors, events and conditions affect the volatility of fuel prices and supplies. Weather can also affect fuel supplies and limit domestic refining capacity. A severe shortage of, or disruption to, domestic fuel supplies could have a material adverse effect on our results of operations, financial condition, and liquidity. Alternatively, lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products we transport. However, lower fuel prices could have a negative impact on other commodities we transport, such as coal and domestic drilling-related shipments, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Rely on Capital Markets – Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, we rely on the capital markets to provide some of our capital requirements. We utilize long-term debt instruments, bank financing, and commercial paper from time-to-time, and we pledge certain of our receivables. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial condition due to internal or external factors could restrict or prohibit our access to, and significantly increase the cost of, commercial paper and other financing sources, including bank credit facilities and the issuance of long-term debt, including corporate bonds. A significant deterioration of our financial condition could result in a reduction of our credit rating to below investment grade, which could restrict or, at certain credit levels below investment grade, may prohibit us from utilizing our current receivables securitization facility. This may also limit our access to external sources of capital and significantly increase the costs of short and long-term debt financing.

General Risk Factors

We Are Affected by General Economic Conditions – Prolonged, severe adverse domestic and global economic conditions or disruptions of financial and credit markets may affect the producers and consumers of the commodities we carry and may have a material adverse effect on our access to liquidity, results of operations, and financial condition.

We May Be Affected by Acts of Terrorism, War, or Risk of War – Our rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Terrorist attacks, or other similar events, any government response thereto, and war or risk of war may adversely affect our results of operations, financial condition, and liquidity. In addition, insurance premiums for some or all of our current coverages could increase dramatically, or certain coverages may not be available to us in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We employ a variety of assets in the management and operation of our rail business. Our rail network covers 23 states in the western two-thirds of the U.S.

Picture 5

TRACK

Our rail network includes 32,313 route miles. We own 26,069 miles and operate on the remainder pursuant to trackage rights or leases. The following table describes track miles at December 31, 2020 and 2019:

	2020	*2019*
Route	**32,313**	32,340
Other main line	**7,097**	7,095
Passing lines and turnouts	**3,382**	3,301
Switching and classification yard lines	**9,001**	9,007
Total miles	**51,793**	51,743

HEADQUARTERS BUILDING

We own our headquarters building in Omaha, Nebraska. The facility has 1.2 million square feet of space that can accommodate approximately 4,000 employees.

HARRIMAN DISPATCHING CENTER

The Harriman Dispatching Center (HDC), located in Omaha, Nebraska, is our primary dispatching facility. It is linked to regional dispatching and locomotive management facilities at various locations along our network. HDC employees coordinate moves of locomotives and trains, manage traffic and train crews on our network, and coordinate interchanges with other railroads. Approximately 700 employees currently work on-site in the facility. In the event of a disruption of operations at HDC due to a cyber-attack, flooding or severe weather, pandemic outbreak, or other event, we maintain the capability to conduct critical operations at back-up facilities in different locations.

RAIL FACILITIES

In addition to our track structure, we operate numerous facilities, including terminals for intermodal and other freight; rail yards for building trains (classification yards), switching, storage-in-transit (the temporary storage of customer goods in rail cars prior to shipment), and other activities; offices to administer and manage our operations; dispatching centers to direct traffic on our rail network; crew on duty locations for train crews along our network; and shops and other facilities for fueling, maintenance, and repair of locomotives and repair and maintenance of rail cars and other equipment. The following table includes the major yards and terminals on our system:

Major Classification Yards	*Major Intermodal Terminals*
North Platte, Nebraska	Joliet (Global 4), Illinois
North Little Rock, Arkansas	East Los Angeles, California
Englewood (Houston), Texas	ICTF (Los Angeles), California
Livonia, Louisiana	Global II (Chicago), Illinois
West Colton, California	City of Industry, California
Houston, Texas	Lathrop, California
Proviso (Chicago), Illinois	LATC (Los Angeles), California
Roseville, California	Salt Lake City, Utah

RAIL EQUIPMENT

Our equipment includes owned and leased locomotives and rail cars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices, and facilities; and vehicles for maintenance, transportation of crews, and other activities. As of December 31, 2020, we owned or leased the following units of equipment:

Locomotives	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Multiple purpose	6,255	1,055	7,310	21.7
Switching	174	-	174	40.5
Other	24	61	85	40.4
Total locomotives	6,453	1,116	7,569	N/A

Freight cars	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Covered hoppers	13,328	8,298	21,626	21.6
Open hoppers	5,202	1,762	6,964	32.2
Gondolas	5,431	2,001	7,432	29.3
Boxcars	2,306	6,620	8,926	41.1
Refrigerated cars	2,279	2,464	4,743	26.4
Flat cars	2,027	945	2,972	35.3
Other	2	268	270	32.4
Total freight cars	30,575	22,358	52,933	N/A

Highway revenue equipment	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Containers	49,409	3,547	52,956	9.8
Chassis	30,099	14,270	44,369	11.6
Total highway revenue equipment	79,508	17,817	97,325	N/A

We continuously assess our need for equipment to run an efficient and reliable network. Many factors cause us to adjust the size of our active fleets, including changes in carload volume, weather events, seasonality, customer preferences, and productivity initiatives. As some of these factors are difficult to assess or can change rapidly, we maintain a surge fleet to remain agile. Without the surge fleet, our ability to react quickly is hindered as equipment suppliers are limited and lead times to acquire equipment are long and may be in excess of a year. We believe our locomotive and freight car fleets are appropriately sized to meet our current and future business requirements. These fleets serve as the most reliable and efficient equipment to facilitate growth without additional acquisitions. Locomotive and freight car in service utilization percentages for the year ended December 31, 2020, were 58% and 71%, respectively.

CAPITAL EXPENDITURES

Our rail network requires significant annual capital investments for replacement, improvement, and expansion. These investments enhance safety, support the transportation needs of our customers, and improve our operational efficiency. Additionally, we add new locomotives and freight cars to our fleet to replace older equipment and to support growth and customer demand.

2020 Capital Program – During 2020, our capital program totaled approximately $2.84 billion. (See the cash capital investments table in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7, of this report)

2021 Capital Plan – In 2021, we expect our capital plan to be approximately $2.9 billion, essentially flat with 2020. (See further discussion of our 2021 capital plan in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7, of this report)

OTHER

Equipment Encumbrances – Equipment with a carrying value of approximately $1.3 billion and $1.6 billion at December 31, 2020 and 2019, respectively, served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Environmental Matters – Certain of our properties are subject to federal, state, and local laws and regulations governing the protection of the environment. (See discussion within this report of environmental issues in Business – Governmental and Environmental Regulation, Item 1; Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7; and Note 17 of the Consolidated Financial Statements.)

Item 3. Legal Proceedings

From time to time, we are involved in legal proceedings, claims, and litigation that occur in connection with our business. We routinely assess our liabilities and contingencies in connection with these matters based upon the latest available information, and, when necessary, we seek input from our third-party advisors when making these assessments. Consistent with SEC rules and requirements, we describe below material pending legal proceedings (other than ordinary routine litigation incidental to our business), material proceedings known to be contemplated by governmental authorities, other proceedings arising under federal, state, or local environmental laws and regulations (including governmental proceedings involving potential fines, penalties, or other monetary sanctions in excess of $1,000,000), and such other pending matters that we may determine to be appropriate.

ENVIRONMENTAL MATTERS

We receive notices from the EPA and state environmental agencies alleging that we are or may be liable under federal or state environmental laws for remediation costs at various sites throughout the U.S., including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in this report in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7, and Note 17 of the Consolidated Financial Statements.

OTHER MATTERS

Antitrust Litigation – As we reported in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, 20 rail shippers (many of whom are represented by the same law firms) filed virtually identical antitrust lawsuits in various federal district courts against us and four other Class I railroads in the U.S. Currently, UPRR and three other Class I railroads are the named defendants in the lawsuit. The original plaintiff filed the first of these claims in the U.S. District Court in New Jersey on May 14, 2007. These suits alleged that the named railroads engaged in price-fixing by establishing common fuel surcharges for certain rail traffic.

As previously reported in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, an appellate hearing related to the U.S. District Court for the District of Columbia's denial of class certification for the rail shippers was held on September 28, 2018. On August 16, 2019, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the decision of U.S. District Court denying class certification (the Certification Denial). Only five plaintiffs remain in this multidistrict litigation (MDL) originally filed in 2007, which remains pending. They are proceeding on a consolidated basis in the U.S. District of Columbia Court before the Honorable Paul L. Friedman (MDL I). Since the Certification Denial, approximately 96 lawsuits have been filed in federal court based on claims identical to those alleged in the class certification case. The Judicial Panel on Multidistrict Litigation consolidated these suits for pretrial proceedings in the U.S. District of Columbia District Court before the Honorable Beryl A. Howell (MDL II).

As we reported in our Current Report on Form 8-K, filed on June 10, 2011, the Railroad received a complaint filed in the U.S. District Court for the District of Columbia on June 7, 2011, by Oxbow Carbon & Minerals LLC and related entities (Oxbow). The fuel surcharge antitrust claim remains and was stayed pending the decision on class certification discussed above. As a result of the Certification Denial, the parties continued to discovery and discovery is complete in this matter. The parties do not anticipate dates for summary judgment or trial will be set in the Oxbow matter until Judge Friedman rules on certain matters in the MDL I mentioned above.

We continue to deny the allegations that our fuel surcharge programs violate the antitrust laws or any other laws. We believe that these lawsuits are without merit, and we will vigorously defend our actions. Therefore, we currently believe that these matters will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

Americans with Disabilities Act (ADA) Litigation- As reported in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, a lawsuit was filed in U.S. District Court for the Western District of Washington (the District Court-Washington), in 2016, alleging violations of the ADA and Genetic Information Nondiscrimination Act relating to Fitness for Duty requirements for safety sensitive positions. On August 8, 2016, the District Court-Washington granted plaintiffs' motion to transfer their claim to the U.S. District Court of Nebraska (the District Court-Nebraska). On February 5, 2019, the District Court-Nebraska granted plaintiffs' motion to certify the ADA allegations as a class action. We were granted the right to appeal this class certification to the U.S. Court of Appeals for the Eighth Circuit (the Eighth Circuit) on March 13, 2019, and the matter was argued before the Eighth Circuit in November 2019. As reported in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, a panel of Eighth Circuit judges issued a decision overturning the District Court-Nebraska and decertified the class action on March 24, 2020.

Plaintiff's counsel did not pursue an appeal of the Eighth Circuit's decision and is instead pursuing over 160 former class members' individual ADA lawsuits against the Company in the District Court-Nebraska. The Company has filed a motion to sever the class representatives' individual claims and that motion is currently pending. Additionally, purported members of the class have filed approximately 220 individual charges of discrimination with various offices of the Equal Employment Opportunity Commission (EEOC).

We intend to vigorously defend the lawsuits currently pending in the United States District Courts and charges of discrimination currently being investigated by the EEOC. We believe that these lawsuits are without merit, and that these matters will not have a material adverse effect on our results of operations, financial condition, and liquidity.

Item 4. <u>Mine Safety Disclosures</u>

Not applicable.

Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries

The Board of Directors typically elects and designates our executive officers on an annual basis at the board meeting held in conjunction with the Annual Meeting of Shareholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year, as the Board of Directors considers appropriate. There are no family relationships among the officers, nor is there 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 current as of February 5, 2021, relating to the executive officers.

Name	Position	Age	Business Experience During Past Five Years
Lance M. Fritz	Chairman, President, and Chief Executive Officer of UPC and the Railroad	58	Current Position
Jennifer L. Hamann	Executive Vice President and Chief Financial Officer of UPC and the Railroad	53	[1]
Craig V. Richardson	Executive Vice President, Chief Legal Officer, and Corporate Secretary of UPC and the Railroad	59	[2]
Kenny G. Rocker	Executive Vice President – Marketing and Sales of the Railroad	49	[3]
Todd M. Rynaski	Vice President and Controller of UPC and the Railroad	50	Current Position
Eric J. Gehringer	Executive Vice President – Operations of the Railroad	41	[4]
Elizabeth F. Whited	Executive Vice President and Chief Human Resources Officer of UPC and the Railroad	55	[5]

[1] Ms. Hamann was elected Executive Vice President and Chief Financial Officer of UPC and the Railroad effective January 1, 2020. She previously served as Senior Vice President – Finance (April 2019 – December 2019), Vice President – Planning & Analysis (October 2017 – March 2019), and Vice President & General Manager – Marketing and Sales – Autos team (February 2016 – September 2017).

[2] Mr. Richardson was elected Executive Vice President, Chief Legal Officer, and Corporate Secretary of UPC and the Railroad effective December 8, 2020. He most recently served as Vice President – Commercial and Regulatory Law since 2015.

[3] Mr. Rocker was elected Executive Vice President – Marketing and Sales of the Railroad effective August 15, 2018. Mr. Rocker previously served at the Railroad as Vice President – Marketing and Sales – Industrial team (October 2016 – August 2018). Prior to this election, Mr. Rocker served as Assistant Vice President – Marketing and Sales – Chemicals team (April 2014 – September 2016).

[4] Mr. Gehringer was elected Executive Vice President – Operations of the Railroad effective January 1, 2021. Mr. Gehringer previously served as Senior Vice President – Transportation (July 2020 – December 2020), Vice President – Mechanical and Engineering (January 2020 – July 2020), Vice President – Engineering (March 2018 – January 2020), Assistant Vice President – Engineering (September 2016 – March 2018), and General Director – Maintenance of Way (May 2015 – September 2016).

[5] Ms. Whited was elected Executive Vice President and Chief Human Resources Officer of UPC and the Railroad effective August 15, 2018. She previously served as Executive Vice President and Chief Marketing Officer (December 2016 – August 2018) and Vice President and General Manager – Marketing and Sales – Chemicals team (October 2012 – December 2016).

PART II

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

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "UNP".

At January 29, 2021, there were 669,829,363 shares of common stock outstanding and 29,745 common shareholders of record. On that date, the closing price of the common stock on the NYSE was $197.47. We paid dividends to our common shareholders during each of the past 121 years.

Comparison Over One- and Three-Year Periods – The following table presents the cumulative total shareholder returns, assuming reinvestment of dividends, over one- and three-year periods for the Corporation (UNP), a peer group index (comprised of CSX Corporation and Norfolk Southern Corporation), the Dow Jones Transportation Index (DJ Trans), and the Standard & Poor's 500 Stock Index (S&P 500).

Period	*UNP*	*Peer Group*	*DJ Trans*	*S&P 500*
1 Year (2020)	17.7 %	26.0 %	16.5 %	18.4 %
3 Year (2018 - 2020)	65.6	72.7	23.4	48.8

Five-Year Performance Comparison – The following graph provides an indicator of cumulative total shareholder returns for the Corporation as compared to the peer group index (described above), the DJ Trans, and the S&P 500. The graph assumes that $100 was invested in the common stock of Union Pacific Corporation and each index on December 31, 2015, and that all dividends were reinvested. The information below is historical in nature and is not necessarily indicative of future performance.

Picture 3

Purchases of Equity Securities – During 2020, we repurchased 22,826,071 shares of our common stock at an average price of $167.92. The following table presents common stock repurchases during each month for the fourth quarter of 2020:

Period	*Total Number of Shares Purchased [a]*	*Average Price Paid Per Share*	*Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program*	*Maximum Number of Shares Remaining Under the Plan or Program [b]*
Oct. 1 through Oct. 31	1,030,821	$ 189.84	1,022,254	113,781,459
Nov. 1 through Nov. 30	1,235,113	198.87	1,233,689	112,547,770
Dec. 1 through Dec. 31	1,525,273	203.03	1,524,800	111,022,970
Total	3,791,207	$ 198.09	3,780,743	N/A

[a] Total number of shares purchased during the quarter includes approximately 10,464 shares delivered or attested to UPC by employees to pay stock option exercise prices, satisfy excess tax withholding obligations for stock option exercises or vesting of retention units, and pay withholding obligations for vesting of retention shares.

[b] Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions.

Item 6. Selected Financial Data

The following table presents as of, and for the years ended, December 31, our selected financial data for each of the last five years. The selected financial data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and with the Financial Statements and Supplementary Data, Item 8. The information below is historical in nature and is not necessarily indicative of future financial condition or results of operations.

Millions, Except per Share Amounts, Carloads, Employee Statistics, and Ratios	***2020[a]***	*2019*	*2018*	*2017[b]*	*2016*
For the Year Ended December 31					
Operating revenues [c]	**$ 19,533**	$ 21,708	$ 22,832	$ 21,240	$ 19,941
Operating income	**7,834**	8,554	8,517	8,106	7,243
Net income	**5,349**	5,919	5,966	10,712	4,233
Earnings per share - basic	**7.90**	8.41	7.95	13.42	5.09
Earnings per share - diluted	**7.88**	8.38	7.91	13.36	5.07
Dividends declared per share	**3.88**	3.70	3.06	2.48	2.255
Cash provided by operating activities	**8,540**	8,609	8,686	7,230	7,525
Cash used in investing activities	**(2,676)**	(3,435)	(3,411)	(3,086)	(3,393)
Cash used in financing activities	**(4,902)**	(5,646)	(5,222)	(4,146)	(4,246)
Cash used for share repurchase programs	**(3,705)**	(5,804)	(8,225)	(4,013)	(3,105)
At December 31					
Total assets	**$ 62,398**	$ 61,673	$ 59,147	$ 57,806	$ 55,718
Long-term obligations [d]	**41,267**	39,194	34,098	29,011	32,146
Debt due after one year	**25,660**	23,943	20,925	16,144	14,249
Common shareholders' equity	**16,958**	18,128	20,423	24,856	19,932
Additional Data					
Freight revenues [c]	**$ 18,251**	$ 20,243	$ 21,384	$ 19,837	$ 18,601
Revenue carloads (units) (000)	**7,753**	8,346	8,908	8,588	8,442
Operating ratio (%) [e]	**59.9**	60.6	62.7	61.8	63.7
Average employees (000)	**31.0**	37.5	42.0	42.0	42.9
Financial Ratios (%)					
Return on average common shareholders' equity [f]	**30.5**	30.7	26.4	47.8	20.8

[a] 2020 includes a $278 million non-cash impairment charge related to Brazos yard.

[b] 2017 includes a $5.9 billion non-cash reduction to income tax expense and $212 million non-cash reduction to operating expenses related to the Tax Cuts and Jobs Act enacted on December 22, 2017.

[c] Includes fuel surcharge revenue of $967 million, $1.6 billion, $1.7 billion, $966 million, and $560 million for 2020, 2019, 2018, 2017, and 2016, respectively, which partially offsets increased operating expenses for fuel. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, of this report.)

[d] Long-term obligations is determined as follows: total liabilities less current liabilities.

[e] Operating ratio is defined as operating expenses divided by operating revenues.

[f] Return on average common shareholders' equity is determined as follows: Net income divided by average common shareholders' equity.

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable notes to the Financial Statements and Supplementary Data, Item 8, and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Policies and Cautionary Information at the end of this Item 7. The following section generally discusses 2020 and 2019 items and year-to-year comparisons between 2020 and 2019. Discussions of 2018 items and year-to-year comparisons between 2019 and 2018 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7, of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable business segment. Although revenue is analyzed by commodity, we analyze the net financial results of the Railroad as one segment due to the integrated nature of the rail network.

EXECUTIVE SUMMARY

2020 Results

- **Coronavirus Pandemic (COVID-19)** – 2020 was a year of great uncertainty as COVID-19 spread across the globe. The pandemic caused a dramatic slowdown of the economy as government intervention forced closures and changed individual behaviors, and businesses transformed their operations to protect the health and safety of their employees, customers, and communities. The varying levels of mitigation across different industries had a significant impact on the demand to ship freight in certain market segments. The most notable impact on our revenue was the temporary suspension of automotive production and the corollary effect it had on products used for auto manufacturing. Other reductions in production drove volume declines in a number of other markets as well. The pandemic also disrupted supply chains between Asia and the United States driving declines in intermodal shipments. While second quarter was the hardest hit and volumes have improved sequentially from that quarter, some market segments are still lagging as year-over-year volumes are down.

- **Safety** – The health and wellbeing of our employees was top of mind in 2020 as we navigated the continually changing environment due to COVID-19. We have and are continuing to adapt to protect the safety of our employees, our customers, and the communities we serve. Enhanced safety procedures were implemented across the system, including new procedures and policies based on Centers for Disease Control and Prevention (CDC) guidelines.

  We continued our focus on safety to reduce risk and eliminate incidents for our employees, our customers, and the public. While we have implemented new practices, which drove a 17% improvement in our reportable equipment incident rate per million train miles, we have significant opportunity for improvement remaining. Our reportable personal injury incidents per 200,000 employee-hours of 0.90 was flat with last year. We continued to use Total Safety Culture, Courage to Care, and COMMIT (Coaching, Observing, Mentoring and Motivating with Integrity and Trust) throughout our operations. We remained focused on identifying and managing risks and training our employees as their work environment changes.

- **Network Operations** – While the pandemic resulted in significant swings in volume, we were able to adjust our demand-driven resources to reflect these fluctuations with minimal disruptions to our customers. Both our Intermodal and Manifest/Automotive car trip plan compliance improved 6 points in 2020, showing our dedication to providing the customer with a service product that delivers value. Although the environment we operated in changed due to COVID-19, we continued our operational transformation. This was evident as our key performance indicators have improved substantially year-over-year. Transportation plan changes to eliminate switches and improved terminal processes drove an 8% improvement in freight car terminal dwell. Improved dwell coupled with 3% faster average train speed led to a 6% improvement in freight car velocity. We also saw 14% improvement in locomotive productivity and 11% improvement in work force productivity. Additional detail on these metrics are discussed in Other Operating / Performance and Financial Statistics of this Item 7.

- **Freight Revenues** – Our freight revenues decreased 10% year-over-year to $18.3 billion driven by a volume decline of 7%, lower fuel surcharge revenue, and negative mix of traffic (for example, a relative

increase in intermodal shipments, which have a lower average revenue per car (ARC)), partially offset by core pricing gains. Volume declined in almost every market segment due to the deteriorating economic conditions brought on by the COVID-19 pandemic. While some markets rebounded in the last half of the year, particularly grain and intermodal, others still lagged 2019 levels. Shipments of coal, sand, and petroleum products continue to be negatively impacted by the low crude oil and natural gas prices.

- **Financial Results** – In 2020, we generated operating income of $7.8 billion, 8% below 2019, driven by the impacts of COVID-19 and a non-cash impairment charge of $278 million related to our Brazos yard investment. Productivity initiatives, lower volumes, and lower fuel prices drove operating expenses down 11% from 2019. These factors coupled with improved pricing were not enough to offset the impact of the revenue decline. Net income of $5.3 billion translated into earnings of $7.88 per diluted share, down 6% from last year. Despite the adversity from COVID-19, our operational transformation produced an all-time record 59.9% operating ratio, improving 0.7 points from 2019.

- **Fuel Prices** – Our average price of diesel fuel in 2020 was $1.50 per gallon, a decrease of 30% from 2019. The lower price resulted in lower operating expenses of $539 million (excluding any impact from year-over-year volume declines). Gross ton-miles decreased 9% and our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles, improved 2%, both driving lower fuel expense.

- **Liquidity** – We are continually evaluating the impact of COVID-19 on our financial condition and liquidity. On December 31, 2020, we had $1.8 billion of cash and cash equivalents. Despite the pandemic, we generated $8.5 billion of cash from operating activities, yielding free cash flow of $3.2 billion after reductions of $2.7 billion for cash used in investing activities and $2.6 billion in dividends. Even though our share repurchase program was temporarily paused for six months starting in March 2020, we repurchased $3.7 billion of our shares. We have been, and we expect to continue to be, in compliance with our debt covenants. We have $2.0 billion of credit available under our revolving credit facility, up to $800 million undrawn on our Receivables Facility, and three bilateral revolving credit lines, which mature in May 2021, with up to $600 million of available credit. As of December 31, 2020, none of the revolving credit facility, Receivables Facility, or bilateral revolving credit lines was drawn.

Free cash flow is defined as cash provided by operating activities less cash used in investing activities and dividends paid. Free cash flow is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe free cash flow is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financing. Free cash flow should be considered in addition to, rather than as a substitute for, cash provided by operating activities. The following table reconciles cash provided by operating activities (GAAP measure) to free cash flow (non-GAAP measure):

Millions		***2020***		*2019*		*2018*
Cash provided by operating activities	**$**	**8,540**	$	8,609	$	8,686
Cash used in investing activities		**(2,676)**		(3,435)		(3,411)
Dividends paid		**(2,626)**		(2,598)		(2,299)
Free cash flow	**$**	**3,238**	$	2,576	$	2,976

2021 Outlook

- **Safety** – Operating a safe railroad benefits all our constituents: our employees, customers, shareholders, and the communities we serve. We will continue using a multi-faceted approach to safety utilizing technology, risk assessments, training, employee engagement, quality control, and targeted capital investments. We will continue using and expanding the deployment of Total Safety Culture, Courage to Care, COMMIT, and Peer to Peer throughout our operations, which allows us to identify and implement best practices for employee and operational safety. We formed an Operating Practices Command Center to identify causes of mainline service interruptions and develop solutions, in addition to, assisting employees with understanding policies, procedures, and best practices for handling trains. We will continue our efforts to utilize data to identify and mitigate risk, detect rail defects, improve or close crossings, and educate the public and law enforcement agencies about crossing safety through

a combination of our own programs (including risk assessment strategies), industry programs, and local community activities across the network.

- **Network Operations** – In 2021, we will continue to transform our railroad to further increase reliability of our service product, reduce variability in network operations, and improve resource utilization. Continued implementation of train length initiatives will allow us to add incremental volume growth to our existing train network. We will continue to make structural changes to improve operational performance and efficiency. A more efficient network requires fewer locomotives, freight cars, and other resources.

- **Market Conditions** – We expect uncertainties with COVID-19 and the economy to continue in 2021. How governments and consumers react to the resurgence, mutation of the virus, and distribution of the vaccine could result in or contribute to customer disruptions, an elongated recovery period, or a downturn from our current business levels. Disruptions in our customers' supply chains caused by the pandemic or other factors may have an impact on our shipments. In addition, other factors such as natural gas prices, weather conditions, and demand for other energy sources may impact the coal market; crude oil price spreads may drive demand for petroleum products and drilling materials; available truck capacity could impact our intermodal business; and international trade agreements could promote or hinder trade.

- **Fuel Prices** – Projections for crude oil and natural gas continue to fluctuate in the current environment. We again could see volatile fuel prices during the year, as they are sensitive to global and U.S. domestic demand, refining capacity, geopolitical events, weather conditions, and other factors. As prices fluctuate, there will be a timing impact on earnings, as our fuel surcharge programs trail increases or decreases in fuel price by approximately two months.

  Significant changes in fuel prices could have an impact on the amount of consumer discretionary spending, impacting demand for various consumer products we transport. Alternatively, those changes could have an inverse impact on commodities such as coal, petroleum products, and domestic drilling-related shipments.

- **Capital Plan** – In 2021, we expect our capital plan to be approximately $2.9 billion, essentially flat with 2020. Implementation of our new transportation plan has generated capacity. We will continue to harden our infrastructure, replace older assets, and improve the safety and resilience of the network. In addition, the plan includes investments intended to support growth and improve productivity and operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion in this Item 7 under Liquidity and Capital Resources – Capital Plan).

- **Financial Expectations** – We expect volume to be up four to as high as six percent in 2021 compared to 2020, provided the second half of the year's industrial production strengthens as predicted by economists. In the current environment, we expect continued margin improvement driven by pricing opportunities in excess of inflation and ongoing productivity initiatives, resulting in approximately $500 million of productivity savings, while better leveraging our resources and strengthening our franchise. We expect to generate strong cash from operating activities along with maintaining our dividend and share repurchase program. As the continued effect of COVID-19 is still uncertain, it could have a material impact on our 2021 financial and operating results, but our focus will be on what we can manage, such as increasing productivity; seeking new business opportunities; protecting our employees, customers, and communities; and providing excellent service to our customers.

RESULTS OF OPERATIONS

Operating Revenues

Millions	***2020***	*2019*	*2018*	***% Change 2020 v 2019***	*% Change 2019 v 2018*
Freight revenues	**$ 18,251**	$ 20,243	$ 21,384	**(10)%**	(5)%
Other subsidiary revenues	**743**	880	881	(16)	-
Accessorial revenues	**473**	514	502	**(8)**	2
Other	**66**	71	65	**(7)**	9
Total	**$ 19,533**	$ 21,708	$ 22,832	**(10)%**	(5)%

We generate freight revenues by transporting freight or other materials from our three commodity groups. Prior to 2020, we reported on four commodity groups, thus prior years' freight revenue, average revenue per car (ARC), and carloadings have been realigned to the new reporting format. Freight revenues vary with volume (carloads) and ARC. Changes in price, traffic mix, and fuel surcharges drive ARC. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied. We recognize freight revenues over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Freight revenues decreased 10% year-over-year to $18.3 billion driven by a 7% volume decline, lower fuel surcharge, and negative mix of traffic, partially offset by core pricing gains. Volume declined in almost every market segment due to the deteriorating economic conditions brought on by the COVID-19 pandemic. While some markets rebounded in the fourth quarter, particularly grain and intermodal, others still lagged 2019 levels. Shipments of coal, sand, and petroleum products continue to be negatively impacted by low crude oil and natural gas prices.

Our fuel surcharge programs generated freight revenues of almost $1.0 billion and $1.6 billion in 2020 and 2019, respectively. Fuel surcharge revenue in 2020 decreased $586 million as a result of a 30% decrease in fuel price and a 7% reduction in carloadings, partially offset by the lag impact on fuel surcharge (it can generally take up to two months for changing fuel prices to affect fuel surcharges recoveries).

In 2020, other subsidiary revenues decreased from 2019 driven by the disruption of the automotive supply chain, which drove lower intermodal shipments and revenue at our subsidiaries that broker intermodal and transload logistics services. Accessorial revenue and other revenue declined driven by lower industrial products traffic.

The following tables summarize the year-over-year changes in freight revenues, revenue carloads, and ARC by commodity type:

Freight Revenues *Millions*	**2020**	*2019*	*2018*	***% Change* 2020 v 2019**	*% Change 2019 v 2018*
Grain & grain products	**$ 2,829**	$ 2,776	$ 2,756	**2 %**	1 %
Fertilizer	**660**	653	641	**1**	2
Food & refrigerated	**937**	1,008	1,065	**(7)**	(5)
Coal & renewables	**1,534**	2,092	2,607	**(27)**	(20)
Bulk	**5,960**	6,529	7,069	**(9)**	(8)
Industrial chemicals & plastics	**1,845**	1,885	1,828	**(2)**	3
Metals & minerals	**1,580**	2,042	2,521	**(23)**	(19)
Forest products	**1,160**	1,160	1,209	**-**	(4)
Energy & specialized markets	**2,037**	2,385	2,131	**(15)**	12
Industrial	**6,622**	7,472	7,689	**(11)**	(3)
Automotive	**1,680**	2,123	2,172	**(21)**	(2)
Intermodal	**3,989**	4,119	4,454	**(3)**	(8)
Premium	**5,669**	6,242	6,626	**(9)**	(6)
Total	**$ 18,251**	$ 20,243	$ 21,384	**(10)%**	(5)%

Revenue Carloads *Thousands*	**2020**	*2019*	*2018*	***% Change* 2020 v 2019**	*% Change 2019 v 2018*
Grain & grain products	**745**	708	723	**5 %**	(2)%
Fertilizer	**193**	190	194	**2**	(2)
Food & refrigerated	**185**	192	206	**(4)**	(7)
Coal & renewables	**797**	997	1,176	**(20)**	(15)
Bulk	**1,920**	2,087	2,299	**(8)**	(9)
Industrial chemicals & plastics	**587**	611	599	**(4)**	2
Metals & minerals	**646**	744	822	**(13)**	(9)
Forest products	**220**	220	241	**-**	(9)
Energy & specialized markets	**539**	624	565	**(14)**	10
Industrial	**1,992**	2,199	2,227	**(9)**	(1)
Automotive	**692**	858	891	**(19)**	(4)
Intermodal [a]	**3,149**	3,202	3,491	**(2)**	(8)
Premium	**3,841**	4,060	4,382	**(5)**	(7)
Total	**7,753**	8,346	8,908	**(7)%**	(6)%

Average Revenue per Car	**2020**	*2019*	*2018*	***% Change* 2020 v 2019**	*% Change 2019 v 2018*
Grain & grain products	**$ 3,797**	$ 3,919	$ 3,811	**(3)%**	3 %
Fertilizer	**3,427**	3,448	3,303	**(1)**	4
Food & refrigerated	**5,047**	5,241	5,171	**(4)**	1
Coal & renewables	**1,926**	2,098	2,216	**(8)**	(5)
Bulk	**3,104**	3,128	3,074	**(1)**	2
Industrial chemicals & plastics	**3,144**	3,087	3,049	**2**	1
Metals & minerals	**2,445**	2,745	3,067	**(11)**	(10)
Forest products	**5,269**	5,264	5,025	**-**	5
Energy & specialized markets	**3,780**	3,821	3,772	**(1)**	1
Industrial	**3,324**	3,398	3,452	**(2)**	(2)
Automotive	**2,427**	2,474	2,438	**(2)**	1
Intermodal [a]	**1,267**	1,286	1,276	**(1)**	1
Premium	**1,476**	1,538	1,512	**(4)**	2
Average	**$ 2,354**	$ 2,425	$ 2,400	**(3)%**	1 %

[a] For intermodal shipments, each container or trailer equals one carload.

2020 Bulk Carloads
Picture 2

Bulk – Bulk includes shipments of grain and grain products, fertilizer, food and refrigerated goods, and coal and renewables. Freight revenue from bulk shipments decreased in 2020 compared to 2019 due to an 8% volume decline and lower fuel surcharge revenue, partially offset by positive business mix and core pricing gains. Continued softness in market conditions due to low natural gas prices and weak export demand drove the 21% decline in coal shipments. The COVID-19 pandemic negatively impacted production of imported beer, food products, and the demand for ethanol and related products contributing to additional declines in volume. Strong demand for export grain, particularly in the fourth quarter, partially offset the losses.

2020 Industrial Carloads
Picture 20

Industrial – Industrial includes shipments of industrial chemicals and plastics, metals and minerals, forest products, and energy and specialized markets. Freight revenue from industrial shipments decreased in 2020 versus 2019 due a 9% decline in volume, negative mix of traffic, and lower fuel surcharge, partially offset by pricing gains. Although volume from industrial shipments were up in the first quarter, it was not enough to overcome the weak demand throughout the rest of the year as the pandemic impacted a wide range of industries driving year-over-year declines in many of our market segments including industrial chemicals, rock, soda ash, and steel. In addition, low oil prices, resulting in lower drilling, coupled with local sand impacts were the primary drivers behind the 57% decline in sand shipments and 26% decline in petroleum product shipments compared to 2019.

2020 Premium Carloads
Picture 23

Premium – Premium includes shipments of finished automobiles, automotive parts, and merchandise in intermodal containers, both domestic and international. Freight revenue from premium shipments decreased in 2020 compared to 2019 due to a 5% volume decline, lower fuel surcharges, and negative mix of traffic, partially offset by core pricing gains. Volume declines in international intermodal due to trade uncertainty and the COVID-19 impact on supply chains between Asia and the U.S., along with the temporary automotive production halt, drove the decline in premium shipments compared to 2019. These declines were partially offset by contract wins and strength in e-commerce parcel shipments.

Mexico Business – Each of our commodity groups includes revenue from shipments to and from Mexico. Revenue from Mexico business was $2.1 billion in 2020, down 10% compared to 2019, driven by a 12% decline in volume and lower fuel surcharge revenue, partially offset by core pricing gains. The volume decline was driven by the COVID-19 pandemic with declines in automotive and intermodal shipments, partially offset by increases in LPG, beer, and grain.

Operating Expenses

Millions	***2020***	*2019*	*2018*	***% Change 2020 v 2019***	*% Change 2019 v 2018*
Compensation and benefits	**$ 3,993**	$ 4,533	$ 5,056	**(12)%**	(10)%
Depreciation	**2,210**	2,216	2,191	**-**	1
Purchased services and materials	**1,962**	2,254	2,443	**(13)**	(8)
Fuel	**1,314**	2,107	2,531	**(38)**	(17)
Equipment and other rents	**875**	984	1,072	**(11)**	(8)
Other	**1,345**	1,060	1,022	**27**	4
Total	**$ 11,699**	$ 13,154	$ 14,315	**(11)%**	(8)%

Operating expenses decreased $1.5 billion in 2020 compared to 2019 driven by productivity improvements, lower fuel prices, cost savings from lower volume, and lower destroyed equipment and freight costs. Partially offsetting these decreases compared to 2019 are a $278 million impairment charge, inflation, increased bad debt expense, and higher state and local taxes. In addition, expenses were positively impacted by lower year-over-year weather-related costs, partially offset by an employment tax refund recognized in 2019. Full year results for 2020 and 2019 both include a $25 million reduction of expense for 2019 weather-related insurance reimbursements.

2020 Operating Expenses
Picture 18

Compensation and Benefits – Compensation and benefits include wages, payroll taxes, health and welfare costs, pension costs, other postretirement benefits, and incentive costs. In 2020, expenses decreased 12% compared to 2019, due to productivity initiatives; declines in carload volumes; lower weather-related costs; management's actions responding to the sharp decline in volume, including three months of temporary unpaid leave and salary reductions, and almost 6 months of large shop closures (a locomotive shop, a freight car shop, and a maintenance-of-way shop); partially offset by wage inflation, an employment tax refund recognized in 2019, and a one-time bonus payment for agreement employees who worked during the pandemic. Severance costs were relatively flat year-over-year.

Depreciation – The majority of depreciation relates to road property, including rail, ties, ballast, and other track material. Depreciation expense was essentially flat in 2020 compared to 2019.

Purchased Services and Materials – Expense for purchased services and materials includes the costs of services purchased from outside contractors and other service providers (including equipment maintenance and contract expenses incurred by our subsidiaries for external transportation services); materials used to maintain the Railroad's lines, structures, and equipment; costs of operating facilities jointly used by UPRR and other railroads; transportation and lodging for train crew employees; trucking and contracting costs for intermodal containers; leased automobile maintenance expenses; and tools and supplies. Purchased services and materials decreased 13% in 2020 compared to 2019 driven by reductions in all of the following: locomotive maintenance expenses due to a smaller active fleet, volume-related costs for intermodal and transload services incurred by our subsidiaries, costs for transportation for the train crews, professional services expense, costs associated with derailments, and year-over-year weather-related costs.

Fuel – Fuel includes locomotive fuel and gasoline for highway and non-highway vehicles and heavy equipment. Locomotive diesel fuel prices, which averaged $1.50 per gallon (including taxes and transportation costs) in 2020, compared to $2.13 per gallon in 2019, decreased expenses $539 million (excluding any impact from year-over-year volume declines). Gross ton-miles decreased 9% and our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles, improved 2%, which both drove lower fuel expense.

Equipment and Other Rents – Equipment and other rents expense primarily includes rental expense that the Railroad pays for freight cars owned by other railroads or private companies; freight car, intermodal, and locomotive leases; and office and other rent expenses, offset by equity income from certain equity method investments. Equipment and other rents expense decreased 11% compared to 2019 driven by improved freight car velocity, volume declines, and lease returns, partially offset by lower equity income.

Other – Other expenses include state and local taxes, freight, equipment and property damage, utilities, insurance, personal injury, environmental, employee travel, telephone and cellular, computer software, bad debt, and other general expenses. Other expenses increased 27% in 2020 compared to 2019 as a result of a $278 million non-cash impairment charge related to our Brazos yard investment. Increased bad debt expense, state and local taxes, lower equity income from our investment in Grupo Ferroviaro Mexicano, and write offs of certain in-progress capital projects and lease impairments, were almost completely offset by lower costs associated with freight loss and damage, employee travel, and destroyed equipment.

Non-Operating Items

Millions		***2020***		*2019*		*2018*	***% Change 2020 v 2019***	*% Change 2019 v 2018*
Other income	**$**	**287**	$	243	$	94	**18** %	F%
Interest expense		**(1,141)**		(1,050)		(870)	**9**	21
Income tax expense		**(1,631)**		(1,828)		(1,775)	**(11)**	3

Other Income – Other income increased in 2020 compared to 2019 due to larger gains from real estate sales, including a $69 million gain from a land and permanent easement sale to the Illinois State Toll Highway Authority, partially offset by $31 million in interest income associated with an employment tax refund in 2019 and lower interest income.

Interest Expense – Interest expense increased in 2020 compared to 2019 due to an increased weighted-average debt level of $27.9 billion in 2020 from $24.8 billion in 2019, partially offset by the impact of a lower effective interest rate of 4.1% in 2020 compared to 4.3 % in 2019.

Income Taxes – Income tax expense decreased in 2020 compared to 2019 due to lower pre-tax income. Our effective tax rates for 2020 and 2019 were 23.4% and 23.6%, respectively.

OTHER OPERATING/PERFORMANCE AND FINANCIAL STATISTICS

We report a number of key performance measures weekly to the STB. We provide this data on our website at www.up.com/investor/aar-stb_reports/index.htm.

Operating/Performance Statistics

Management continuously measures these key operating metrics to evaluate our productivity, asset utilization, and network efficiency in striving to provide a consistent, reliable service product to our customers.

Railroad performance measures are included in the table below:

	2020	*2019*	*2018*	***% Change 2020 v 2019***	*% Change 2019 v 2018*
Gross ton-miles (GTMs) (billions)	**771.8**	846.6	928.6	**(9)%**	(9)%
Revenue ton-miles (billions)	**385.0**	423.4	474.0	**(9)**	(11)
Freight car velocity (daily miles per car) [a]	**221**	209	198	**6**	6
Average train speed (miles per hour) [b]	**25.9**	25.1	26.1	**3**	(4)
Average terminal dwell time (hours) [b]	**22.7**	24.8	29.8	**(8)**	(17)
Locomotive productivity (GTMs per horsepower day)	**137**	120	106	**14**	13
Train length (feet)	**8,798**	7,747	7,036	**14**	10
Intermodal car trip plan compliance (%)	**81**	75	71	**6 pts**	4 pts
Manifest/Automotive car trip plan compliance (%)	**71**	65	57	**6 pts**	8 pts
Workforce productivity (car miles per employee)	**947**	857	839	**11**	2
Total employees (average)	**30,960**	37,483	41,967	**(17)**	(11)
Operating ratio	**59.9**	60.6	62.7	**(0.7)pts**	(2.1)pts

[a] Prior years have been recast to conform to the current year presentation which reflects minor refinements.
[b] As reported to the STB.

Gross and Revenue Ton-Miles – Gross ton-miles are calculated by multiplying the weight of loaded and empty freight cars by the number of miles hauled. Revenue ton-miles are calculated by multiplying the weight of freight by the number of tariff miles. Gross ton-miles and revenue ton-miles both decreased 9% in 2020 compared to 2019, driven by a 7% decline in carloadings. Changes in commodity mix drove the variance in year-over-year decreases between gross ton-miles, revenue ton-miles, and carloads.

Freight Car Velocity – Freight car velocity measures the average daily miles per car on our network. The two key drivers of this metric are the speed of the train between terminals (average train speed) and the time a rail car spends at the terminals (average terminal dwell time). Continued implementation of our new operating plan was the primary driver of the improvement from 2019 as both average terminal dwell and average train speed improved compared to 2020. Average terminal dwell time decreased compared to 2019 largely due to improved terminal processes, transportation plan changes to eliminate switches, and reduced carload volumes due to COVID-19. Average train speed in 2020 improved as weather-related challenges slowed trains in the first half of 2019. Train speed remained relatively flat year-over-year in the second half of the year.

Locomotive Productivity – Locomotive productivity is gross ton-miles per average daily locomotive horsepower. Locomotive productivity increased 14% in 2020 compared to 2019 driven by a 24% reduction in our average active fleet size due to transportation plan changes and lower locomotive dwell times.

Train Length – Train length is the average maximum train length on a route measured in feet. Our train length increased 14% compared to 2019 as a result of blending service products, transportation plan changes, and completing 36 siding extension projects.

Car Trip Plan Compliance – Car trip plan compliance is the percentage of cars delivered on time in accordance with our original trip plan. Our network trip plan compliance is broken into the intermodal and manifest products. Intermodal trip plan compliance improved versus 2019, due to improved train speed and reduced dwell at our origin and destination ramps. Manifest car trip plan compliance improved compared to 2019 due to improved car dwell in our yards, increased train velocity across the network, and more

reliable first and last mile service. Both metrics were aided by reduced carload volumes due to COVID-19 and milder weather.

Workforce Productivity – Workforce productivity is average daily car miles per employee. Workforce productivity improved 11%, reaching an all-time record as average daily car miles decreased 9% while employees decreased 17% compared to 2019. Lower volumes drove the decline in average daily car miles. The 17% decline in employee levels was driven by productivity initiatives, a 7% decline in carload volumes, and a smaller capital workforce. At the end of the year, approximately 4,100 employees across all crafts were furloughed.

Operating Ratio – Operating ratio is our operating expenses reflected as a percentage of operating revenue. Our operating ratio of 59.9% was an all-time record and improved 0.7 points compared to 2019 mainly driven by productivity initiatives, lower fuel prices, and core pricing gains; which were partially offset by a negative mix of traffic, a one-time impairment charge, inflation, and other cost increases.

Return on Average Common Shareholders' Equity

Millions, Except Percentages		***2020***		*2019*		*2018*
Net income	**$**	**5,349**	$	5,919	$	5,966
Average equity	**$**	**17,543**	$	19,276	$	22,640
Return on average common shareholders' equity		**30.5%**		30.7%		26.4%

Return on Invested Capital as Adjusted (ROIC)

Millions, Except Percentages		***2020***		*2019*		*2018*
Net income	**$**	**5,349**	$	5,919	$	5,966
Interest expense		**1,141**		1,050		870
Interest on average operating lease liabilities		**64**		76		82
Taxes on interest		**(282)**		(266)		(218)
Net operating profit after taxes as adjusted	**$**	**6,272**	$	6,779	$	6,700
Average equity	**$**	**17,543**	$	19,276	$	22,640
Average debt		**25,965**		23,796		19,668
Average operating lease liabilities		**1,719**		2,052		2,206
Average invested capital as adjusted	**$**	**45,227**	$	45,124	$	44,514
Return on Invested Capital as Adjusted		**13.9%**		15.0%		15.1%

ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. In addition, we currently use ROIC as a performance criteria in determining certain elements of equity compensation for our executives. ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity. The tables above provide reconciliations from return on average common shareholders' equity to ROIC. At December 31, 2020, 2019, and 2018, the incremental borrowing rate on operating leases was 3.7%.

Adjusted Debt / Adjusted EBITDA

Millions, Except Ratios for the Twelve Months Ended		***Dec. 31, 2020***		*Dec. 31, 2019*		*Dec. 31, 2018*
Net income	**$**	**5,349**	$	5,919	$	5,966
Add:						
Income tax expense		**1,631**		1,828		1,775
Depreciation		**2,210**		2,216		2,191
Interest expense		**1,141**		1,050		870
EBITDA	**$**	**10,331**	$	11,013	$	10,802
Adjustments:						
Other income		**(287)**		(243)		(94)
Interest on operating lease liabilities		**59**		68		84
Adjusted EBITDA	**$**	**10,103**	$	10,838	$	10,792
Debt	**$**	**26,729**	$	25,200	$	22,391
Operating lease liabilities		**1,604**		1,833		2,271
Unfunded pension and OPEB,						
net of taxes of $195, $124 and $135		**637**		400		456
Adjusted debt	**$**	**28,970**	$	27,433	$	25,118
Adjusted debt / Adjusted EBITDA		**2.9**		2.5		2.3

Adjusted debt to adjusted EBITDA (earnings before interest, taxes, depreciation, amortization, and adjustments for other income and interest on present value of operating leases) is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the Company's ability to sustain given debt levels (including leases) with the cash generated from operations. In addition, a comparable measure is used by rating agencies when reviewing the Company's credit rating. Adjusted debt to adjusted EBITDA should be considered in addition to, rather than as a substitute for, net income. The table above provides reconciliations from net income to adjusted debt to adjusted EBITDA. At December 31, 2020, 2019, and 2018, the incremental borrowing rate on operating leases was 3.7%.

LIQUIDITY AND CAPITAL RESOURCES

We are continually evaluating the impact of COVID-19 on our financial condition and liquidity. Although the situation is fluid and highly uncertain, we continue to analyze a wide range of economic scenarios and the impact on our ability to generate cash. These analyses inform our liquidity plans and activity outlined below and indicate we have sufficient capacity to sustain an extended period of lower volumes.

At December 31, 2020, we had a working capital surplus due to an increased cash balance held due to the uncertainty related to COVID-19 compared to December 31, 2019, where we had a working capital deficit due to upcoming debt maturities. As past years indicate, it is not unusual for us to have a working capital deficit; however, we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility and, when necessary, access the capital markets to meet any foreseeable cash requirements.

We generated $8.5 billion of cash from operating activities in 2020. Based on the strength of our cash position, we completed a $1.0 billion debt exchange; redeemed the $500 million principal outstanding of 4.0% notes due February 1, 2021, on November 1, 2020; repaid the $300 million outstanding bilateral revolving credit lines that we assumed earlier in the year; repaid the $400 million outstanding on the Receivables Facility; and reduced our commercial paper outstanding from $200 million to $75 million. We have been, and we expect to continue to be, in compliance with our debt covenants. Our bad debt provision was adjusted to reflect deteriorations of customers' creditworthiness. We maintained the dividend during 2020 paying out $2.6 billion and repurchased shares totaling $3.7 billion. In the third quarter, we completed our $2 billion accelerated share repurchase program entered into on February 18, 2020, and resumed share repurchases in the fourth quarter after suspending share repurchases in March 2020.

Our principal sources of liquidity include cash, cash equivalents, our receivables securitization facility, our revolving credit facility, as well as the availability of commercial paper and other sources of financing through the capital markets. On December 31, 2020, we had $1.8 billion of cash and cash equivalents, $2.0 billion of committed credit available under our credit facility, up to $800 million undrawn on the Receivables Facility, and three bilateral revolving credit lines, which mature in May 2021, with up to $600 million of available credit. As of December 31, 2020, none of the revolving credit facility, Receivables Facility, or bilateral revolving credit lines was drawn. We did not draw on our revolving credit facility at any time during 2020. Our access to the receivables securitization facility may be reduced or restricted if our bond ratings fall to certain levels below investment grade. If our bond rating were to deteriorate, it could have an adverse impact on our liquidity. Access to commercial paper as well as other capital market financing is dependent on market conditions. Deterioration of our operating results or financial condition due to internal or external factors could negatively impact our ability to access capital markets as a source of liquidity. Access to liquidity through the capital markets is also dependent on our financial stability. We expect that we will continue to have access to liquidity through any or all of the following sources or activities: (i) increasing the utilization of our receivables securitization, (ii) issuing commercial paper, (iii) entering into bank loans, outside of our revolving credit facility, or (iv) issuing bonds or other debt securities to public or private investors based on our assessment of the current condition of the credit markets. The Company's $2.0 billion revolving credit facility is intended to support the issuance of commercial paper by UPC and also serves as an additional source of liquidity to fund short term needs. The Company currently does not intend to make any borrowings under this facility.

LIBOR Transition – Each of our $2.0 billion revolving credit facility, three bilateral revolving credit lines, two term loans, and Receivables Securitization Facility currently use LIBOR as the benchmark for its floating interest rates. Authorities that regulate LIBOR have announced plans to phase out LIBOR so that it will, at some point, cease to exist as a benchmark for floating interest rates. To address the phase out of LIBOR, the agreements for substantially all of these facilities include a mechanism to replace LIBOR with an alternative rate or benchmark under specified circumstances through an amendment to the agreements. As part of this process, we will need to renegotiate our agreements to reference that alternative rate or benchmark, and may need to modify our existing benchmark replacement language, or obtain replacement facilities, and the use of an alternative rate or benchmark may negatively impact the terms of our facilities, including in the form of an adverse effect on interest rates and higher borrowing costs and interest expense.

Cash Flows *Millions*	***2020***	*2019*	*2018*
Cash provided by operating activities	**$ 8,540**	$ 8,609	$ 8,686
Cash used in investing activities	**(2,676)**	(3,435)	(3,411)
Cash used in financing activities	**(4,902)**	(5,646)	(5,222)
Net change in cash, cash equivalents, and restricted cash	**$ 962**	$ (472)	$ 53

Operating Activities

Cash provided by operating activities decreased in 2020 compared to 2019 due primarily to lower net income, partially offset by a deferral of employment tax payments allowed by a provision in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act).

Cash Flow Conversion – Cash flow conversion is defined as cash provided by operating activities less cash used in capital investments as a ratio of net income.

Cash flow conversion rate is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe cash flow conversion rate is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financing. Cash flow conversion rate should be considered in addition to, rather than as a substitute for, cash provided by operating activities.

The following table reconciles cash provided by operating activities (GAAP measure) to cash flow conversion rate (non-GAAP measure):

Millions, For the Year Ended December 31, 2020		***2020***		*2019*		*2018*
Cash provided by operating activities	**$**	**8,540**	$	8,609	$	8,686
Cash used in capital investments		**(2,927)**		(3,453)		(3,437)
Total (a)		**5,613**		5,156		5,249
Net income (b)		**5,349**		5,919		5,966
Cash flow conversion rate (a/b)		**105 %**		87 %		88 %

Investing Activities

Cash used in investing activities in 2020 decreased compared to 2019 primarily driven by reduced capital investment in locomotives and freight cars and increased real estate sales.

The following tables detail cash capital investments and track statistics for the years ended December 31, 2020, 2019, and 2018:

Millions		***2020***		*2019*		*2018*
Ties	**$**	**507**	$	427	$	444
Rail and other track material		**471**		561		608
Ballast		**225**		271		216
Other [a]		**584**		694		576
Total road infrastructure replacements		**1,787**		1,953		1,844
Line expansion and other capacity projects		**332**		357		286
Commercial facilities		**171**		183		234
Total capacity and commercial facilities		**503**		540		520
Locomotives and freight cars [b]		**269**		610		716
Positive train control		**79**		95		158
Technology and other		**289**		255		199
Total cash capital investments	**$**	**2,927**	$	3,453	$	3,437

[a] Other includes bridges and tunnels, signals, other road assets, and road work equipment.
[b] Locomotives and freight cars include early lease buyouts of $38 million in 2020, $290 million in 2019, and $290 million in 2018.

	2020	*2019*	*2018*
Track miles of rail replaced	**468**	534	700
Track miles of rail capacity expansion	**83**	55	39
New ties installed (thousands)	**4,671**	3,475	4,285
Miles of track surfaced	**10,414**	7,741	9,466

Capital Plan – In 2021, we expect our capital plan to be approximately $2.9 billion, essentially flat with 2020. While implementation of our new transportation plan has generated capacity, we will continue to harden our infrastructure, replace older assets, and improve the safety and resiliency of the network. In addition, the plan includes investments intended to support growth and improve productivity and operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments.

Financing Activities

Cash used in financing activities decreased in 2020 compared to 2019 driven by lower share repurchases, which were paused in March of 2020 due to the uncertainty of COVID-19 and resumed in the fourth quarter of 2020, with the exception of the final settlement in July 2020 of our $2 billion accelerated share repurchase program entered into on February 18, 2020. This decrease was partially offset by an increase in debt repaid.

See Note 14 of the Consolidated Financial Statements for a description of all our outstanding financing arrangements and significant new borrowings.

Share Repurchase Programs

Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions. As of December 31, 2020, we repurchased a total of $40.9 billion of our common stock since commencement of our repurchase programs in 2007. The table below represents shares repurchased under repurchase programs during 2020 and 2019:

	Number of Shares Purchased		*Average Price Paid [a]*	
	2020	*2019*	***2020***	*2019*
First quarter [b]	**14,305,793**	18,149,450	**$ 178.66**	$ 165.79
Second quarter	**-**	3,732,974	**-**	171.24
Third quarter [c]	**4,045,575**	9,529,733	**98.87**	163.30
Fourth quarter	**3,780,743**	3,582,212	**198.07**	167.32
Total	**22,132,111**	34,994,369	**$ 167.39**	$ 165.85
Remaining number of shares that may be repurchased under current authority				111,022,970

[a] In the period of the final settlement, the average price paid under the accelerated share repurchase programs is calculated based on the total program value less the value assigned to the initial delivery of shares. The average price of the completed 2020 and 2019 accelerated share repurchase programs was $155.86 and $167.01, respectively.

[b] Includes 8,786,380 and 11,795,930 shares repurchased in February 2020 and 2019, respectively, under accelerated share repurchase programs.

[c] Includes an incremental 4,045,575 and 3,172,900 shares received upon final settlement in July 2020 and August 2019, respectively, under accelerated share repurchase programs.

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2021, through February 4, 2021, we repurchased 2.1 million shares at an aggregate cost of approximately $442 million.

Accelerated Share Repurchase Programs – The Company has established accelerated share repurchase programs (ASRs) with financial institutions to repurchase shares of our common stock. These ASRs have been structured so that at the time of commencement, we pay a specified amount to the financial institutions and receive an initial delivery of shares. Additional shares may be received at the time of settlement. The final number of shares to be received is based on the volume weighted average price of the Company's common stock during the ASR term, less a discount and subject to potential adjustments pursuant to the terms of such ASR.

On February 19, 2020, the Company received 8,786,380 shares of its common stock repurchased under ASRs for an aggregate of $2.0 billion. Upon settlement of these ASRs in the third quarter of 2020, we received 4,045,575 additional shares.

On February 26, 2019, the Company received 11,795,930 shares of its common stock repurchased under ASRs for an aggregate of $2.5 billion. Upon settlement of these ASRs in the third quarter of 2019, we received 3,172,900 additional shares.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

Contractual Obligations and Commercial Commitments

As described in the notes to the Consolidated Financial Statements and as referenced in the tables below, we have contractual obligations and commercial commitments that may affect our financial condition. Based on our assessment of the underlying provisions and circumstances of our contractual obligations and commercial commitments, including material sources of off-balance sheet and structured finance arrangements, other than the risks that we and other similarly situated companies face with respect to the condition of the capital markets (as described in Item 1A of Part II of this report), there is no known trend, demand, commitment, event, or uncertainty that is reasonably likely to occur that would have a material adverse effect on our consolidated results of operations, financial condition, or liquidity. In addition, our commercial obligations, financings, and commitments are customary transactions that are similar to those of other comparable corporations, particularly within the transportation industry.

The following tables identify material obligations and commitments as of December 31, 2020:

		Payments Due by December 31,						
Contractual Obligations							*After*	
Millions	*Total*	*2021*	*2022*	*2023*	*2024*	*2025*	*2025*	*Other*
Debt [a]	$ 48,525	$ 1,975	$ 2,280	$ 2,246	$ 2,265	$ 2,245	$ 37,514	$ -
Purchase obligations [b]	2,790	1,174	547	246	204	162	457	-
Operating leases [c]	1,830	325	273	229	220	216	567	-
Finance lease obligations [d]	517	135	111	81	68	45	77	-
Other post retirement benefits [e]	410	49	45	44	39	39	194	-
Income tax contingencies [f]	74	1	-	-	-	-	-	73
Total contractual obligations	$ 54,146	$ 3,659	$ 3,256	$ 2,846	$ 2,796	$ 2,707	$ 38,809	$ 73

[a] Excludes finance lease obligations of $449 million as well as unamortized discount and deferred issuance costs of ($1,538) million. Includes an interest component of $20,707 million.

[b] Purchase obligations include locomotive maintenance contracts; purchase commitments for fuel purchases, ties, ballast, and rail; and agreements to purchase other goods and services.

[c] Includes leases for locomotives, freight cars, other equipment, and real estate.

[d] Represents total obligations, including interest component of $68 million.

[e] Includes estimated other post retirement, medical, and life insurance payments, and payments made under the unfunded pension plan for the next ten years.

[f] Future cash flows for income tax contingencies reflect the recorded liabilities and assets for unrecognized tax benefits, including interest and penalties, as of December 31, 2020. For amounts where the year of settlement is uncertain, they are reflected in the Other column.

		Amount of Commitment Expiration per Period					
Other Commercial Commitments							*After*
Millions	*Total*	*2021*	*2022*	*2023*	*2024*	*2025*	*2025*
Credit facilities [a]	$ 2,000	$ -	$ -	$ 2,000	$	$ -	$ -
Receivables securitization facility [b]	800	-	800	-	-	-	-
Bilateral revolving credit lines [c]	600	600	-	-	-	-	-
Standby letters of credit [d]	19	16	3	-	-	-	-
Guarantees [e]	10	5	5	-	-	-	-
Total commercial commitments	$ 3,429	$ 621	$ 808	$ 2,000	$ -	$ -	$ -

[a] None of the credit facility was used as of December 31, 2020.

[b] None of the receivables securitization facility was utilized as of December 31, 2020. The full program matures in July 2022.

[c] None of the bilateral revolving credit lines were utilized as of December 31, 2020. The programs mature in May 2021.

[d] None of the letters of credit were drawn upon as of December 31, 2020.

[e] Includes guaranteed obligations related to our affiliated operations.

Off-Balance Sheet Arrangements

Guarantees – At December 31, 2020 and 2019, we were contingently liable for $10 million and $15 million, respectively, in guarantees. The fair value of these obligations as of both December 31, 2020 and 2019, was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

OTHER MATTERS

Labor Agreements – Approximately 83% of our full-time employees are represented by 13 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. Existing agreements remain in effect until new agreements are ratified or until the RLA procedures are exhausted. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The current round of negotiations began on January 1, 2020, related to years 2020-2024. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare (see "*Strikes or Work Stoppages Could Adversely Affect Our Operations*" in the Risk Factors in Item 1A of this report).

Inflation – Long periods of inflation significantly increase asset replacement costs for capital-intensive companies. As a result, assuming that we replace all operating assets at current price levels, depreciation charges (on an inflation-adjusted basis) would be substantially greater than historically reported amounts.

Sensitivity Analyses – The sensitivity analyses that follow illustrate the economic effect that hypothetical changes in interest rates could have on our results of operations and financial condition. These hypothetical changes do not consider other factors that could impact actual results.

At December 31, 2020, we had variable-rate debt representing approximately 1.2% of our total debt. If variable interest rates average one percentage point higher in 2021 than our December 31, 2020, variable rate, which was approximately 1.3%, our interest expense would increase by approximately $3.3 million. This amount was determined by considering the impact of the hypothetical interest rate on the balances of our variable-rate debt at December 31, 2020.

Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a hypothetical one percentage point decrease in interest rates as of December 31, 2020, and amounts to an increase of approximately $4.7 billion to the fair value of our debt at December 31, 2020. We estimated the fair values of our fixed-rate debt by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates.

Accounting Pronouncements – See Note 3 to the Consolidated Financial Statements.

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Indemnities – Our maximum potential exposure under indemnification arrangements, including certain tax indemnifications, can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

Climate Change – Although climate change could have an adverse impact on our operations and financial performance in the future (see Risk Factors under Item 1A of this report), we are currently unable to predict the manner or severity of such impact. However, we continue to take steps and explore opportunities to reduce the impact of our operations on the environment, including investments in new technologies, using training programs and technology to reduce fuel consumption, and changing our operations to increase fuel efficiency.

CRITICAL ACCOUNTING POLICIES

Our Consolidated Financial Statements have been prepared in accordance with GAAP. The preparation of these financial statements requires estimation and judgment that affect the reported amounts of revenues, expenses, assets, and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The following critical accounting policies are a subset of our significant accounting policies described in Note 2 to the Financial Statements and Supplementary Data, Item 8. These critical accounting policies affect significant areas of our financial statements and involve judgment and estimates. If these estimates differ significantly from actual results, the impact on our Consolidated Financial Statements may be material.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2020. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $270 million to $295 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions		***2020***		*2019*		*2018*
Beginning balance	**$**	**265**	$	271	$	285
Current year accruals		**72**		78		74
Changes in estimates for prior years		**(3)**		(11)		(16)
Payments		**(64)**		(73)		(72)
Ending balance at December 31	**$**	**270**	$	265	$	271
Current portion, ending balance at December 31	**$**	**60**	$	63	$	72

Our personal injury claims activity was as follows:

	2020	*2019*	*2018*
Open claims, beginning balance	**1,985**	2,025	2,090
New claims	**2,577**	3,025	3,188
Settled or dismissed claims	**(2,665)**	(3,065)	(3,253)
Open claims, ending balance at December 31	**1,897**	1,985	2,025

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2020 and 2019. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 373 sites where we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 29 sites that are the subject of actions taken by the U.S. government, 18 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the

remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions		***2020***		*2019*		*2018*
Beginning balance	**$**	**227**	$	223	$	196
Accruals		**76**		67		84
Payments		**(70)**		(63)		(57)
Ending balance at December 31	**$**	**233**	$	227	$	223
Current portion, ending balance at December 31	**$**	**65**	$	62	$	59

Our environmental site activity was as follows:

	2020	*2019*	*2018*
Open sites, beginning balance	**360**	334	315
New sites	**96**	114	91
Closed sites	**(83)**	(88)	(72)
Open sites, ending balance at December 31	**373**	360	334

The environmental liability includes future costs for remediation and restoration of sites as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enables us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad property by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and

[?] Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives, and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. Rail in high-density traffic corridors accounts for approximately 70 percent of the historical cost of rail and other track material. Based on the number of gross ton-miles carried over our rail in high density traffic corridors during 2020, the estimated service lives of the majority of this rail ranged from approximately 24 years to approximately 48 years. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Estimated service lives of depreciable railroad property may vary over time due to changes in physical use, technology, asset strategies, and other factors that will have an impact on the retirement profiles of our assets. We are not aware of any specific factors that are reasonably likely to significantly change the estimated service lives of our assets. Actual use and retirement of our assets may vary from our current estimates, which would impact the amount of depreciation expense recognized in future periods.

Changes in estimated useful lives of our assets due to the results of our depreciation studies could significantly impact future periods' depreciation expense and have a material impact on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by approximately $68 million. If the estimated useful lives of all depreciable assets were decreased by one year, annual depreciation expense would increase by approximately $72 million. Our 2020 depreciation studies have resulted in lower depreciation rates for some asset classes. These lower rates offset the impact of a projected higher depreciable asset base, resulting in a flat year-over-year total depreciation expense in 2021 versus 2020.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) it is unusual, (ii) it is material in amount, and (iii) it varies significantly from the retirement profile identified through our depreciation studies. During the last three fiscal years, no gains or losses were recognized due to the retirement of depreciable railroad properties. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

We review construction in progress assets that have not yet been placed into service, for impairment when events or changes in circumstances indicate that the carrying amount of a long-lived asset or assets may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of construction in progress assets when grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent, the carrying value is reduced to the estimated fair value.

Income Taxes
– We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have

been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity. For example, a permanent 1% increase in future income tax rates would increase our deferred tax liability by approximately $521 million. Similarly, a permanent 1% decrease in future income tax rates would decrease our deferred tax liability by approximately $521 million.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2020 and 2019, there were no valuation allowances.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Other Postretirement Benefits – We use an actuarial analysis to measure the liabilities and expenses associated with providing pension and medical and life insurance benefits (OPEB) to eligible employees. In order to use actuarial methods to value the liabilities and expenses, we must make several assumptions. The critical assumptions used to measure pension obligations and expenses are the discount rates and expected rate of return on pension assets. For OPEB, the critical assumptions are the discount rates and health care cost trend rate.

We evaluate our critical assumptions at least annually, and selected assumptions are based on the following factors:

- We measure the service cost and interest cost components of our net periodic benefit cost by using individual spot rates matched with separate cash flows for each future year. Discount rates are based on a Mercer yield curve of high quality corporate bonds (rated AA by a recognized rating agency).
- Expected return on plan assets is based on our asset allocation mix and our historical return, taking into consideration current and expected market conditions.
- Health care cost trend rate is based on our historical rates of inflation and expected market conditions.

The following tables present the key assumptions used to measure net periodic pension and OPEB cost/(benefit) for 2021 and the estimated impact on 2021 net periodic pension and OPEB cost/(benefit) relative to a change in those assumptions:

Assumptions	*Pension*	*OPEB*
Discount rate for benefit obligations	2.42%	2.22%
Discount rate for interest on benefit obligations	1.91%	1.57%
Discount rate for service cost	2.62%	2.36%
Discount rate for interest on service cost	2.54%	2.23%
Expected return on plan assets	6.25%	N/A
Compensation increase	4.40%	N/A
Health care cost trend rate:		
Pre-65 current	N/A	5.42%
Pre-65 level in 2038	N/A	4.50%

Sensitivities	*Increase in Expense*	
Millions	*Pension*	*OPEB*
0.25% decrease in discount rates	$ 13	$ (5)
0.25% increase in compensation scale	$ 9	N/A
0.25% decrease in expected return on plan assets	$ 10	N/A

The following table presents the net periodic pension and OPEB cost for the years ended December 31:

Millions	*Est. 2021*	*2020*	*2019*	*2018*
Net periodic pension cost	$ 98	$ 50	$ 34	$ 71
Net periodic OPEB cost	(3)	(1)	10	23

CAUTIONARY INFORMATION

Certain statements in this report, and statements in other reports or information filed or to be filed with the SEC (as well as information included in oral statements or other written statements made or to be made by us), are, or will be, forward-looking statements as defined by the Securities Act of 1933 and the Securities Exchange Act of 1934. These forward-looking statements and information include, without limitation, statements in the Chairman's letter preceding Part I; statements regarding planned capital expenditures under the caption "2021 Capital Plan" in Item 2 of Part I; and statements and information set forth under the captions "2021 Outlook"; "Liquidity and Capital Resources" in Item 7 of Part II regarding our capital plan, "Share Repurchase Programs", "Off-Balance Sheet Arrangements, Contractual Obligations, and Commercial Commitments", "Pension and Other Postretirement Benefits", and "Other Matters" in this Item 7 of Part II. Forward-looking statements and information also include any other statements or information in this report (including information incorporated herein by reference) regarding: potential impacts of the COVID-19 pandemic on our business operations, financial results, liquidity, and financial position, and on the world economy (including our customers and supply chains), including as a result of decreased volume and carloadings; closing of customer manufacturing, distribution, or production facilities; expectations as to operational or service improvements; expectations regarding the effectiveness of steps taken or to be taken to improve operations, service, infrastructure improvements, and transportation plan modifications; expectations as to cost savings, revenue growth, and earnings; the time by which goals, targets, or objectives will be achieved; projections, predictions, expectations, estimates, or forecasts as to our business, financial, and operational results, future economic performance, and general economic conditions; expectations as to operational or service performance or improvements; expectations as to the effectiveness of steps taken or to be taken to improve operations and/or service, including capital expenditures for infrastructure improvements and equipment acquisitions, any strategic business acquisitions, and modifications to our transportation plans, including leveraging PTC; expectations as to existing or proposed new products and services; expectations as to the impact of any new regulatory activities or legislation on our operations or financial results; estimates of costs relating to environmental remediation and restoration; estimates and expectations regarding tax matters; expectations that claims, litigation, environmental costs, commitments, contingent liabilities, labor negotiations or agreements, or other matters will not have a material adverse effect on our consolidated results of operations, financial condition, or liquidity and any other similar expressions concerning matters that are not historical facts. Forward-looking statements may be identified by their use of forward-looking terminology, such as "believes," "expects," "may," "should," "would," "will," "intends," "plans," "estimates," "anticipates," "projects" and similar words, phrases, or expressions.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times that, or by which, such performance or results will be achieved. Forward-looking statements and information are subject to risks and uncertainties, including the impact of the COVID-19 pandemic and responses by governments, businesses, and individuals, that could cause actual performance or results to differ materially from those expressed in the statements and information. Forward-looking statements and information reflect the good faith consideration by management of currently available information, and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances over which management has little or no influence or control, and many of these risks and uncertainties are currently amplified by and may continue to be amplified by, or in the future may be amplified by, the COVID-19 pandemic. The Risk Factors in Item 1A of this report could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in any forward-looking statements or information. To the extent circumstances require or we deem it otherwise necessary, we will update or amend these risk factors in a Form 10-Q, Form 8-K, or subsequent Form 10-K. All forward-looking statements are qualified by, and should be read in conjunction with, these Risk Factors.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions, or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information concerning market risk sensitive instruments is set forth under Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Matters, Item 7.

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Item 8. Financial Statements and Supplementary Data

Index to Consolidated Financial Statements **Page**

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2020 and 2019, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2020, 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 5, 2021, expressed an unqualified opinion on the Corporation's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 3 to the financial statements, effective January 1, 2019, the Corporation adopted Financial Accounting Standards Board Accounting Standards Update No. 2016-02, *Leases (Topic 842).*

Basis for Opinion

These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Capitalization of Properties — Refer to Notes 2 and 11 to the financial statements

Critical Audit Matter Description

The Corporation's operations are highly capital intensive and their large network of assets turns over on a continuous basis. Each year, the Corporation develops a capital program for both the replacement of assets and for the acquisition or construction of new assets. In determining whether costs should be capitalized, the Corporation exercises significant judgment in determining whether expenditures meet the applicable minimum units of property criteria and extend the useful life, improve the safety of operations, or improve the operating efficiency of existing assets. The Corporation capitalizes all costs of capital projects necessary to make assets ready for their intended use and because a portion of the Corporation's assets are self-constructed, management also exercises significant judgment in determining the amount of material, labor, work equipment, and indirect costs that qualify for capitalization. Net properties were $54,161 million as of December 31, 2020 and, during 2020, the Corporation's capital investments were $2.9 billion.

We identified the capitalization of property as a critical audit matter because of the significant judgment exercised by management in determining whether costs meet the criteria for capitalization. This, in turn, required a high degree of auditor judgment when performing audit procedures to evaluate whether the criteria to capitalize costs were met and to evaluate sufficiency of audit evidence to support management's conclusions.

How the Critical Audit Matter Was Addressed in the Audit

Our procedures related to capitalization of property included the following, among others:

- We tested the effectiveness of controls over the Corporation's determination of whether costs related to the Corporation's capital program should be capitalized or expensed.

- We evaluated the Corporation's capitalization policy in accordance with accounting principles generally accepted in the United States of America.

- For a selection of capital projects, we performed the following:

  - Obtained the Corporation's evaluation of each project and determined whether the amount of costs to be capitalized met the criteria for capitalization as outlined within the Corporation's policy by unit of property.

  - Obtained supporting documentation that the project met the applicable minimum units of property criteria and was approved, and evaluated whether the project extended the useful life of an existing asset, improved the safety of operations, or improved the operating efficiency of existing assets.

- For a selection of capitalized costs during the year, we performed the following:

  - Evaluated whether the individual cost selected met the criteria for capitalization.

  - Evaluated whether the selection was accurately recorded at the appropriate amount based on the evidence obtained.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 5, 2021

We have served as the Corporation's auditor since 1967.

CONSOLIDATED STATEMENTS OF INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, Except Per Share Amounts, for the Years Ended December 31,		***2020***		*2019*		*2018*
Operating revenues:						
Freight revenues	**$**	**18,251**	$	20,243	$	21,384
Other revenues		**1,282**		1,465		1,448
Total operating revenues		**19,533**		21,708		22,832
Operating expenses:						
Compensation and benefits		**3,993**		4,533		5,056
Depreciation		**2,210**		2,216		2,191
Purchased services and materials		**1,962**		2,254		2,443
Fuel		**1,314**		2,107		2,531
Equipment and other rents		**875**		984		1,072
Other		**1,345**		1,060		1,022
Total operating expenses		**11,699**		13,154		14,315
Operating income		**7,834**		8,554		8,517
Other income (Note 6)		**287**		243		94
Interest expense		**(1,141)**		(1,050)		(870)
Income before income taxes		**6,980**		7,747		7,741
Income tax expense (Note 7)		**(1,631)**		(1,828)		(1,775)
Net income	**$**	**5,349**	$	5,919	$	5,966
Share and Per Share (Note 8):						
Earnings per share - basic	**$**	**7.90**	$	8.41	$	7.95
Earnings per share - diluted	**$**	**7.88**	$	8.38	$	7.91
Weighted average number of shares - basic		**677.3**		703.5		750.9
Weighted average number of shares - diluted		**679.1**		706.1		754.3

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2020***		*2019*		*2018*
Net income	**$**	**5,349**	$	5,919	$	5,966
Other comprehensive income/(loss):						
Defined benefit plans		**(231)**		42		62
Foreign currency translation		**(6)**		17		(36)
Total other comprehensive income/(loss) [a]		**(237)**		59		26
Comprehensive income	**$**	**5,112**	$	5,978	$	5,992

[a] Net of deferred taxes of $75 million, ($15) million, and ($22) million during 2020, 2019, and 2018, respectively.
The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
Union Pacific Corporation and Subsidiary Companies

Millions, Except Share and Per Share Amounts as of December 31,		***2020***		*2019*
Assets				
Current assets:				
Cash and cash equivalents	**$**	**1,799**	$	831
Short-term investments (Note 13)		**60**		60
Accounts receivable, net (Note 10)		**1,505**		1,595
Materials and supplies		**638**		751
Other current assets		**212**		222
Total current assets		**4,214**		3,459
Investments		**2,164**		2,050
Net properties (Note 11)		**54,161**		53,916
Operating lease assets (Note 16)		**1,610**		1,812
Other assets		**249**		436
Total assets	**$**	**62,398**	$	61,673
Liabilities and Common Shareholders' Equity				
Current liabilities:				
Accounts payable and other current liabilities (Note 12)	**$**	**3,104**	$	3,094
Debt due within one year (Note 14)		**1,069**		1,257
Total current liabilities		**4,173**		4,351
Debt due after one year (Note 14)		**25,660**		23,943
Operating lease liabilities (Note 16)		**1,283**		1,471
Deferred income taxes (Note 7)		**12,247**		11,992
Other long-term liabilities		**2,077**		1,788
Commitments and contingencies (Note 17)				
Total liabilities		**45,440**		43,545
Common shareholders' equity:				
Common shares, $2.50 par value, 1,400,000,000 authorized; 1,112,227,784 and 1,112,014,480 issued; 671,351,360 and 692,100,651 outstanding, respectively		**2,781**		2,780
Paid-in-surplus		**4,864**		4,523
Retained earnings		**51,326**		48,605
Treasury stock		**(40,420)**		(36,424)
Accumulated other comprehensive loss (Note 9)		**(1,593)**		(1,356)
Total common shareholders' equity		**16,958**		18,128
Total liabilities and common shareholders' equity	**$**	**62,398**	$	61,673

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2020***		*2019*		*2018*
Operating Activities						
Net income	**$**	**5,349**	$	5,919	$	5,966
Adjustments to reconcile net income to cash provided by operating activities:						
Depreciation		**2,210**		2,216		2,191
Deferred and other income taxes		**340**		566		338
Net gain on non-operating asset dispositions		**(115)**		(20)		(30)
Other operating activities, net		**490**		98		347
Changes in current assets and liabilities:						
Accounts receivable, net		**90**		160		(262)
Materials and supplies		**113**		(9)		7
Other current assets		**(34)**		87		(24)
Accounts payable and other current liabilities		**(73)**		(179)		(125)
Income and other taxes		**170**		(229)		278
Cash provided by operating activities		**8,540**		8,609		8,686
Investing Activities						
Capital investments		**(2,927)**		(3,453)		(3,437)
Proceeds from asset sales		**149**		74		63
Maturities of short-term investments (Note 13)		**141**		130		90
Purchases of short-term investments (Note 13)		**(136)**		(115)		(90)
Other investing activities, net		**97**		(71)		(37)
Cash used in investing activities		**(2,676)**		(3,435)		(3,411)
Financing Activities						
Debt issued (Note 14)		**4,004**		3,986		6,892
Share repurchase programs (Note 18)		**(3,705)**		(5,804)		(8,225)
Dividends paid		**(2,626)**		(2,598)		(2,299)
Debt repaid		**(2,053)**		(817)		(1,736)
Debt exchange		**(328)**		(387)		-
Net issuance of commercial paper (Note 14)		**(127)**		(6)		194
Other financing activities, net		**(67)**		(20)		(48)
Cash used in financing activities		**(4,902)**		(5,646)		(5,222)
Net change in cash, cash equivalents, and restricted cash		**962**		(472)		53
Cash, cash equivalents, and restricted cash at beginning of year		**856**		1,328		1,275

Cash, cash equivalents, and restricted cash at end of year	**$**	**1,818**	$	856	$	1,328
Supplemental Cash Flow Information						
Non-cash investing and financing activities:						
Term loan renewals	**$**	**250**	**$**	250	**$**	250
Capital investments accrued but not yet paid		**166**		224		205
Locomotives sold for material credits		**-**		18		-
Finance lease financings		**-**		-		12
Cash paid during the year for:						
Income taxes, net of refunds	**$**	**(1,214)**	$	(1,382)	$	(1,205)
Interest, net of amounts capitalized		**(1,050)**		(1,033)		(728)

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN COMMON SHAREHOLDERS' EQUITY
Union Pacific Corporation and Subsidiary Companies

Millions	*Common Shares*	*Treasury Shares*	*Common Shares*	*Paid-in-Surplus*	*Retained Earnings*	*Treasury Stock*	*AOCI [a]*	*Total*
Balance at January 1, 2018	1,111.4	(330.5)	$ 2,778	$ 4,476	$ 41,317	$ (22,574)	$ (1,141)	$ 24,856
Net income			-	-	5,966	-	-	5,966
Other comprehensive income			-	-	-	-	26	26
Conversion, stock option exercises, forfeitures, and other	0.3	1.1	1	65	-	33	-	99
Share repurchase programs (Note 18)	-	(57.2)	-	(92)	-	(8,133)	-	(8,225)
Cash dividends declared ($3.06 per share)	-	-	-	-	(2,299)	-	-	(2,299)
Reclassification due to ASU 2018-02 adoption [b]			-	-	300	-	(300)	-
Balance at December 31, 2018	1,111.7	(386.6)	$ 2,779	$ 4,449	$ 45,284	$ (30,674)	$ (1,415)	$ 20,423
Net income			-	-	5,919	-	-	5,919
Other comprehensive income			-	-	-	-	59	59
Conversion, stock option exercises, forfeitures, and other	0.3	1.7	1	46	-	82	-	129
Share repurchase programs (Note 18)	-	(35.0)	-	28	-	(5,832)	-	(5,804)
Cash dividends declared ($3.70 per share)	-	-	-	-	(2,598)	-	-	(2,598)
Balance at December 31, 2019	1,112.0	(419.9)	$ 2,780	$ 4,523	$ 48,605	$ (36,424)	$ (1,356)	$ 18,128
Net income			-	-	5,349	-	-	5,349
Other comprehensive loss			-	-	-	-	(237)	(237)
Conversion, stock option exercises, forfeitures, and other	0.2	1.1	1	31	-	19	-	51
Share repurchase programs (Note 18)	-	(22.1)	-	310	-	(4,015)	-	(3,705)
Cash dividends declared ($3.88 per share)	-	-	-	-	(2,628)	-	-	(2,628)
Balance at December 31, 2020	**1,112.2**	**(440.9)**	**$ 2,781**	**$ 4,864**	**$ 51,326**	**$ (40,420)**	**$ (1,593)**	**$ 16,958**

[a] AOCI = Accumulated Other Comprehensive Income/Loss (Note 9)
[b] ASU 2018-02 is the Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which allows entities the option to reclassify from accumulated other comprehensive income to retained earnings the income tax effects that remain stranded in AOCI resulting from the application of the Tax Cuts and Jobs Act.
The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
Union Pacific Corporation and Subsidiary Companies

For purposes of this report, unless the context otherwise requires, all references herein to the "Corporation", "Company", "UPC", "we", "us", and "our" mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which will be separately referred to herein as "UPRR" or the "Railroad".

1. Nature of Operations

Operations and Segmentation – We are a Class I railroad operating in the U.S. Our network includes 32,313 route miles, connecting Pacific Coast and Gulf Coast ports with the Midwest and Eastern U.S. gateways and providing several corridors to key Mexican and Canadian gateways. We own 26,069 miles and operate on the remainder pursuant to trackage rights or leases. We serve the western two-thirds of the country and maintain coordinated schedules with other rail carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide and analyze revenue by commodity group, we treat the financial results of the Railroad as one segment due to the integrated nature of our rail network. Our operating revenues are primarily derived from contracts with customers for the transportation of freight from origin to destination. The following table represents a disaggregation of our freight and other revenues:

Millions		***2020***		*2019*		*2018*
Bulk	**$**	**5,960**	$	6,529	$	7,069
Industrial		**6,622**		7,472		7,689
Premium		**5,669**		6,242		6,626
Total freight revenues	**$**	**18,251**	**$**	20,243	$	21,384
Other subsidiary revenues		**743**		880		881
Accessorial revenues		**473**		514		502
Other		**66**		71		65
Total operating revenues	**$**	**19,533**	$	21,708	$	22,832

Although our revenues are principally derived from customers domiciled in the U.S., the ultimate points of origination or destination for some products we transport are outside the U.S. Each of our commodity groups includes revenue from shipments to and from Mexico. Included in the above table are freight revenues from our Mexico business which amounted to $2.1 billion in 2020, $2.3 billion in 2019, and $2.5 billion in 2018.

Basis of Presentation – The Consolidated Financial Statements are presented in accordance with accounting principles generally accepted in the U.S. (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

2. Significant Accounting Policies

Principles of Consolidation – The Consolidated Financial Statements include the accounts of Union Pacific Corporation and all of its subsidiaries. Investments in affiliated companies (20% to 50% owned) are accounted for using the equity method of accounting. All intercompany transactions are eliminated. We currently have no less than majority-owned investments that require consolidation under variable interest entity requirements.

Cash, Cash Equivalents, and Restricted Cash – Cash equivalents consist of investments with original maturities of three months or less. Amounts included in restricted cash represent those required to be set aside by contractual agreement.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Statements of Financial Position that sum to the total of the same such amounts shown on the Consolidated Statements of Cash Flows:

Millions		***2020***		*2019*		*2018*
Cash and cash equivalents	**$**	**1,799**	$	831	$	1,273
Restricted cash equivalents in other current assets		**7**		13		42
Restricted cash equivalents in other assets		**12**		12		13
Total cash, cash equivalents, and restricted cash equivalents shown on the Statement of Cash Flows:	**$**	**1,818**	$	856	$	1,328

Accounts Receivable – Accounts receivable includes receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position.

Investments – Investments represent our investments in affiliated companies (20% to 50% owned) that are accounted for under the equity method of accounting and investments in companies (less than 20% owned) accounted for at cost as there are not readily determinable fair values for such investments. Our portion of income/loss on equity method investments that are integral to our operations are recorded in operating expenses.

Materials and Supplies – Materials and supplies are carried at the lower of average cost or net realizable value.

Property and Depreciation – Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks), for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. Under the group method of depreciation, no gain or loss is recognized when depreciable property is retired or replaced in the ordinary course of business.

Impairment of Long-lived Assets – We review long-lived assets, including identifiable intangibles, for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of the long-lived assets, the carrying value is reduced to the estimated fair value.

Revenue Recognition – Freight revenues are derived from contracts with customers. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable. Our contracts include private agreements, private rate/letter quotes, public circulars/tariffs, and interline/foreign agreements. The performance obligation in our contracts is typically delivering a specific commodity from a place of origin to a place of destination and our commitment begins with the tendering and acceptance of a freight bill of lading and is satisfied upon delivery at destination. We consider each freight shipment to be a distinct performance obligation.

We recognize freight revenues over time as freight moves from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Outstanding performance obligations related to freight moves in transit totaled $151 million at December 31, 2020, and $127 million at December 31, 2019, and are expected to be recognized in the following quarter as we satisfy our remaining performance obligations and deliver freight to destination. The transaction price is generally specified in a contract and may be dependent on the commodity, origin/destination, and route. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied.

Under typical payment terms, our customers pay us after each performance obligation is satisfied and there are no material contract assets or liabilities associated with our freight revenues. Outstanding freight receivables are presented in our Consolidated Statements of Financial Position as Accounts Receivables, net.

Freight revenue related to interline transportation services that involve other railroads are reported on a net basis. The portion of the gross amount billed to customers that is remitted by the Company to another party is not reflected as freight revenue.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Translation of Foreign Currency – Our portion of the assets and liabilities related to foreign investments are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average rates of exchange prevailing during the year. Unrealized gains or losses are reflected within common shareholders' equity as accumulated other comprehensive income or loss.

Fair Value Measurements – We use a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety. These levels include:

Level 1: Quoted market prices in active markets for identical assets or liabilities.
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3: Unobservable inputs that are not corroborated by market data.

We have applied fair value measurements to our short term investments, pension plan assets, impairment of long-lived assets, and short- and long-term debt.

Stock-Based Compensation – We have several stock-based compensation plans under which employees receive nonvested stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as "retention awards". We issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

We measure and recognize compensation expense for all stock-based awards made to employees, including stock options. Compensation expense is based on the fair value of the awards as measured at the grant date and is expensed ratably over the service period of the awards (generally the vesting period). The fair value of retention awards is the closing stock price on the date of grant, while the fair value of stock options is determined by using the Black-Scholes option pricing model.

Earnings Per Share – Basic earnings per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized,

based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Leases – We lease certain locomotives, freight cars, and other property for use in our rail operations. We determine if an arrangement is or contains a lease at inception. Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments, discounted using our collateralized incremental borrowing rate, over the lease term at commencement date. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Operating leases are included in operating lease assets, accounts payable and other current liabilities, and operating lease liabilities on our Consolidated Statements of Financial Position. Finance leases are included in net properties, debt due within one year, and debt due after one year on our Consolidated Statements of Financial Position. Operating lease expense is recognized on a straight-line basis over the lease term and reported in equipment and other rents and financing lease expense is recorded as depreciation and interest expense in our Consolidated Statements of Income.

We have lease agreements with lease and non-lease components and we have elected to not separate lease and non-lease components for all classes of underlying assets. Leases with an initial term of 12 months or less are not recorded on our Consolidated Statements of Financial Position. Leases with initial terms in excess of 12 months are recorded as operating or financing leases in our Consolidated Statements of Financial Position.

Pension and Postretirement Benefits – We incur certain employment-related expenses associated with pensions and postretirement health benefits. In order to measure the expense associated with these benefits, we must make various assumptions including discount rates used to value certain liabilities, expected return on plan assets used to fund these expenses, compensation increases, employee turnover rates, anticipated mortality rates, and expected future health care costs. The assumptions used by us are based on our historical experience as well as current facts and circumstances. We use an actuarial analysis to measure the expense and liability associated with these benefits.

Personal Injury – The cost of injuries to employees and others on our property is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability. Our personal injury liability is not discounted to present value. Legal fees and incidental costs are expensed as incurred.

Environmental – When environmental issues have been identified with respect to property currently or formerly owned, leased, or otherwise used in the conduct of our business, we perform, with the assistance of our consultants, environmental assessments on such property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. We do not discount our environmental liabilities when the timing of the anticipated cash payments is not fixed or readily determinable. Legal fees and incidental costs are expensed as incurred.

Use of Estimates – The preparation of our Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported assets and liabilities, the disclosure of certain contingent assets and liabilities as of the date of the Consolidated Financial Statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual future results may differ from such estimates.

3. Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), *Leases (Topic 842)*. ASU 2016-02 requires companies to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. We implemented an enterprise-wide lease management system to support the new reporting requirements, and effective January 1, 2019, we adopted ASU 2016-02, *Leases (Topic 842)*. We elected an initial application date of January 1, 2019, and did not recast comparative periods in transition to the new standard. In addition, at the date of adoption, we elected certain practical expedients, which permit us to not reassess whether existing contracts are or contain

leases, to not reassess the lease classification of any existing leases, to not reassess initial direct costs for any existing leases, and to not separate lease and nonlease components for all classes of underlying assets. Also, at the date of adoption, we elected to keep leases with an initial term of 12 months or less off of the balance sheet for all classes of underlying assets. Adoption of the new standard resulted in an increase in the Company's assets and liabilities of approximately $2 billion. The ASU did not have an impact on our consolidated results of operations or cash flows.

In June 2016, the FASB issued Accounting Standards Update No. 2016-13 (ASU 2016-13), *Measurement of Credit Losses on Financial Instruments,* which replaces the existing incurred credit loss model for an expected credit loss model. Effective January 1, 2020, the Company adopted ASU 2016-13, and it did not have a material impact on our consolidated financial position, results of operations, or cash flows.

In August 2018, the FASB issued Accounting Standards Update No. 2018-14 (ASU 2018-14), *Changes to the Disclosure Requirements for Defined Benefit Plans,* which modifies the disclosure requirements for employers that sponsor defined benefit pension and other postretirement plans. Effective January 1, 2020, the Company adopted ASU 2018-14, and it did not have a material impact on the Company's consolidated financial statement disclosure requirements.

In December 2019, the FASB issued Accounting Standards Update No. 2019-12 (ASU 2019-12), *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which simplifies the accounting and disclosure requirements for income taxes by clarifying existing guidance to improve consistency in application of Accounting Standards Codification (ASC) 740. The company adopted the ASU on January 1, 2021 (the effective date). Adoption of the standard is not expected to have a material impact on the Company's Consolidated Statements of Income, Financial Position, and Cash Flows.

In March 2020, the FASB issued Accounting Standards Update No. 2020-04 (ASU 2020-04), *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional expedients and exceptions for applying GAAP principles to contracts, hedging relationships, and other transactions that reference London Interbank Offered Rate (LIBOR) or another reference rate expected to be discontinued due to reference rate reform. This guidance was effective beginning on March 12, 2020, and can be adopted on a prospective basis no later than December 31, 2022, with early adoption permitted. The Company is currently evaluating the effect that the new guidance will have on our consolidated financial statements and related disclosures.

4. Stock Options and Other Stock Plans

In April 2000, the shareholders approved the Union Pacific Corporation 2000 Directors Plan (Directors Plan) whereby 2,200,000 shares of our common stock were reserved for issuance to our non-employee directors. Under the Directors Plan, each non-employee director, upon his or her initial election to the Board of Directors, received a grant of 4,000 retention shares or retention stock units. In July 2018, the Board of Directors eliminated the retention grant for directors newly elected in 2018 and all future years. As of December 31, 2020, 32,000 restricted shares were outstanding under the Directors Plan.

The Union Pacific Corporation 2004 Stock Incentive Plan (2004 Plan) was approved by shareholders in April 2004. The 2004 Plan reserved 84,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans that were outstanding on April 16, 2004, and became available for regrant pursuant to the terms of the 2004 Plan. Under the 2004 Plan, non-qualified options, stock appreciation rights, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2004 Plan. As of December 31, 2020, 81,784 options were outstanding under the 2004 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2013 Stock Incentive Plan (2013 Plan) was approved by shareholders in May 2013. The 2013 Plan reserved 78,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of February 28, 2013, that are subsequently cancelled, expired, forfeited, or otherwise not issued under previous plans. Under the 2013 Plan, non-qualified options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2013 Plan. As of December 31, 2020, 2,486,758 options and 1,989,208 retention shares and stock units were outstanding under the 2013 Plan.

Pursuant to the above plans 69,867,405; 70,318,887; and 70,730,692; shares of our common stock were authorized and available for grant at December 31, 2020, 2019, and 2018, respectively.

Stock-Based Compensation – We have several stock-based compensation plans under which employees receive nonvested stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as "retention awards". We issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

Information regarding stock-based compensation appears in the table below:

Millions		***2020***		*2019*		*2018*
Stock-based compensation, before tax:						
Stock options	**$**	**15**	$	16	$	17
Retention awards		**58**		77		79
Total stock-based compensation, before tax	**$**	**73**	$	93	$	96
Excess tax benefits from equity compensation plans	**$**	**55**	$	52	$	28

Stock Options – We estimate the fair value of our stock option awards using the Black-Scholes option pricing model. The table below shows the annual weighted-average assumptions used for valuation purposes:

Weighted-Average Assumptions		***2020***		*2019*		*2018*
Risk-free interest rate		**1.5%**		2.5%		2.6%
Dividend yield		**2.1%**		2.2%		2.3%
Expected life (years)		**4.9**		5.2		5.3
Volatility		**23.4%**		22.7%		21.1%
Weighted-average grant-date fair value of options granted	**$**	**32.20**	$	30.37	$	21.70

The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant; the expected dividend yield is calculated as the ratio of dividends paid per share of common stock to the stock price on the date of grant; the expected life is based on historical and expected exercise behavior; and expected volatility is based on the historical volatility of our stock price over the expected life of the option.

A summary of stock option activity during 2020 is presented below:

	Options (thous.)		*Weighted-Average Exercise Price*	*Weighted-Average Remaining Contractual Term*			*Aggregate Intrinsic Value (millions)*
Outstanding at January 1, 2020	3,502	$	113.38	6.1	yrs.	$	236
Granted	558		176.63	N/A			N/A
Exercised	(1,402)		100.41	N/A			N/A
Forfeited or expired	(89)		162.52	N/A			N/A
Outstanding at December 31, 2020	2,569	$	132.49	6.4	yrs.	$	195
Vested or expected to vest at December 31, 2020	2,538	$	132.11	6.4	yrs.	$	193
Options exercisable at December 31, 2020	1,547	$	112.98	5.3	yrs.	$	147

Stock options are granted at the closing price on the date of grant, have 10 year contractual terms, and vest no later than 3 years from the date of grant. None of the stock options outstanding at December 31, 2020, are subject to performance or market-based vesting conditions.

At December 31, 2020, there was $15 million of unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted-average period of 0.9 years. Additional information regarding stock option exercises appears in the following table:

Millions		***2020***		*2019*		*2018*
Intrinsic value of stock options exercised	**$**	**120**	$	193	$	83
Cash received from option exercises		**95**		130		76
Treasury shares repurchased for employee payroll taxes		**(24)**		(37)		(20)
Tax benefit realized from option exercises		**28**		48		21
Aggregate grant-date fair value of stock options vested		**15**		15		19

Retention Awards – The fair value of retention awards is based on the closing price of the stock on the grant date. Dividends and dividend equivalents are paid to participants during the vesting periods.

Changes in our retention awards during 2020 were as follows:

	Shares (thous.)		*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2020	1,898	$	112.12
Granted	315		185.99
Vested	(645)		77.74
Forfeited	(92)		141.83
Nonvested at December 31, 2020	1,476	$	141.06

Retention awards are granted at no cost to the employee and vest over periods lasting up to 4 years. At December 31, 2020, there was $88 million of total unrecognized compensation expense related to nonvested retention awards, which is expected to be recognized over a weighted-average period of 1.5 years.

Performance Retention Awards – In February 2020, our Board of Directors approved performance stock unit grants. The basic terms of these performance stock units are identical to those granted in February 2019, except for different annual return on invested capital (ROIC) performance targets. The plan also includes relative operating income growth (OIG) as a modifier compared to the companies included in the S&P 500 Industrials Index. We define ROIC as net operating profit adjusted for interest expense (including interest on average operating lease liabilities) and taxes on interest divided by average invested capital adjusted for average operating lease liabilities. The modifier can be up to +/- 25% of the award earned based on the ROIC achieved.

Stock units awarded to selected employees under these grants are subject to continued employment for 37 months and the attainment of certain levels of ROIC, modified for the relative OIG. We expense the fair value of the units that are probable of being earned based on our forecasted ROIC over the 3-year performance period, and with respect to the third year of the plan, the relative OIG modifier. We measure the fair value of these performance stock units based upon the closing price of the underlying common stock as of the date of grant. Dividend equivalents are accumulated during the service period and paid to participants only after the units are earned.

Changes in our performance retention awards during 2020 were as follows:

	Shares (thous.)		*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2020	929	$	123.32
Granted	287		177.23

Vested	(339)		102.97
Unearned	(8)		153.89
Forfeited	(96)		153.74
Nonvested at December 31, 2020	773	$	148.17

At December 31, 2020, there was $16 million of total unrecognized compensation expense related to nonvested performance retention awards, which is expected to be recognized over a weighted-average period of 0.9 years. This expense is subject to achievement of the performance measures established for the performance stock unit grants.

5. Retirement Plans

Pension and Other Postretirement Benefits

Pension Plans – We provide defined benefit retirement income to eligible non-union employees through qualified and non-qualified (supplemental) pension plans. Qualified and non-qualified pension benefits are based on years of service and the highest compensation during the latest years of employment, with specific reductions made for early retirements. Non-union employees hired on or after January 1, 2018, are no longer eligible for pension benefits, but are eligible for an enhanced 401(k) benefit as described below in other retirement programs.

Other Postretirement Benefits (OPEB) – We provide medical and life insurance benefits for eligible retirees hired before January 1, 2004. These benefits are funded as medical claims and life insurance premiums are paid.

Funded Status

We are required by GAAP to separately recognize the overfunded or underfunded status of our pension and OPEB plans as an asset or liability. The funded status represents the difference between the projected benefit obligation (PBO) and the fair value of the plan assets. Our non-qualified (supplemental) pension plan is unfunded by design. The PBO of the pension plans is the present value of benefits earned to date by plan participants, including the effect of assumed future compensation increases. The PBO of the OPEB plan is equal to the accumulated benefit obligation, as the present value of the OPEB liabilities is not affected by compensation increases. Plan assets are measured at fair value. We use a December 31 measurement date for plan assets and obligations for all our retirement plans.

Changes in our PBO and plan assets were as follows for the years ended December 31:

Funded Status	*Pension*		*OPEB*	
Millions	***2020***	*2019*	***2020***	*2019*
Projected Benefit Obligation				
Projected benefit obligation at beginning of year	**$ 4,847**	$ 4,181	**$ 205**	$ 298
Service cost	**91**	80	**1**	1
Interest cost	**137**	160	**5**	9
Plan amendment	**-**	-	**(2)**	(92)
Actuarial (gain)/loss	**812**	656	**-**	11
Gross benefits paid	**(229)**	(230)	**(19)**	(22)
Projected benefit obligation at end of year	**$ 5,658**	$ 4,847	**$ 190**	$ 205
Plan Assets				
Fair value of plan assets at beginning of year	**$ 4,528**	$ 3,887	**$ -**	$ -
Actual (loss)/return on plan assets	**686**	841	**-**	-
Non-qualified plan benefit contributions	**31**	30	**19**	22
Gross benefits paid	**(229)**	(230)	**(19)**	(22)
Fair value of plan assets at end of year	**$ 5,016**	$ 4,528	**$ -**	$ -
Funded status at end of year	**$ (642)**	$ (319)	**$ (190)**	$ (205)

Actuarial gains and losses that increased the PBO were driven by a decrease in 2020 discount rates from 3.26% to 2.42%.

Amounts recognized in the statement of financial position as of December 31, 2020 and 2019 consist of:

	Pension		OPEB	
Millions	***2020***	*2019*	***2020***	*2019*
Noncurrent assets	**$ 8**	$ 203	**$ -**	$ -
Current liabilities	**(30)**	(29)	**(18)**	(20)
Noncurrent liabilities	**(620)**	(493)	**(172)**	(185)
Net amounts recognized at end of year	**$ (642)**	$ (319)	**$ (190)**	$ (205)

Pre-tax amounts recognized in accumulated other comprehensive income/loss as of December 31, 2020 and 2019 consist of:

	2020			2019		
Millions	***Pension***	***OPEB***	***Total***	*Pension*	*OPEB*	*Total*
Prior service cost	**$ -**	**$ 84**	**$ 84**	$ -	$ 95	$ 95
Net actuarial loss	**(1,805)**	**(98)**	**(1,903)**	(1,501)	(104)	(1,605)
Total	**$ (1,805)**	**$ (14)**	**$ (1,819)**	$ (1,501)	$ (9)	$ (1,510)

Pre-tax changes recognized in other comprehensive income/loss during 2020, 2019, and 2018 were as follows:

	Pension			OPEB		
Millions	***2020***	*2019*	*2018*	***2020***	*2019*	*2018*
Prior service credit	**$ -**	$ -	$ -	**$ 2**	$ 92	$ -
Net actuarial (loss)/gain	**(408)**	(88)	(40)	**-**	(11)	20
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**(14)**	(7)	1
Actuarial loss	**104**	67	93	**7**	7	10
Total	**$ (304)**	$ (21)	$ 53	**$ (5)**	$ 81	$ 31

Underfunded Accumulated Benefit Obligation – The accumulated benefit obligation (ABO) is the present value of benefits earned to date, assuming no future compensation growth. The underfunded accumulated benefit obligation represents the difference between the ABO and the fair value of plan assets.

The following table discloses only the PBO, ABO, and fair value of plan assets for pension plans where the accumulated benefit obligation is in excess of the fair value of the plan assets as of December 31:

Underfunded Accumulated Benefit Obligation		
Millions	***2020***	*2019*
Projected benefit obligation	**$ 605**	$ 522
Accumulated benefit obligation	**$ 560**	$ 498
Fair value of plan assets	**-**	-
Underfunded accumulated benefit obligation	**$ (560)**	$ (498)

The ABO for all defined benefit pension plans was $5.2 billion and $4.5 billion at December 31, 2020 and 2019, respectively.

Assumptions – The weighted-average actuarial assumptions used to determine benefit obligations at December 31:

	Pension		OPEB	
Percentages	***2020***	*2019*	***2020***	*2019*
Discount rate	**2.42%**	3.26%	**2.22%**	3.13%
Compensation increase	**4.40%**	4.10%	**N/A**	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	**5.42%**	5.64%
Ultimate health care cost trend rate	**N/A**	N/A	**4.50%**	4.50%
Year ultimate trend rate reached	**N/A**	N/A	**2038**	2038

Expense

Both pension and OPEB expense are determined based upon the annual service cost of benefits (the actuarial cost of benefits earned during a period) and the interest cost on those liabilities, less the expected return on plan assets. The expected long-term rate of return on plan assets is applied to a calculated value of plan assets that recognizes changes in fair value over a 5 year period. This practice is intended to reduce year-to-year volatility in pension expense, but it can have the effect of delaying the recognition of differences between actual returns on assets and expected returns based on long-term rate of return assumptions. Differences in actual experience in relation to assumptions are not recognized in net income immediately, but are deferred in accumulated other comprehensive income/loss and, if necessary, amortized as pension or OPEB expense.

On June 30, 2019, the OPEB plan was remeasured to reflect an announced plan amendment effective January 1, 2020, that reduced and eliminated certain medical benefits for Medicare-eligible retirees. This negative plan amendment resulted in a reduction in the accumulated postretirement benefit obligation of approximately $92 million with a corresponding adjustment of $69 million in other comprehensive income, net of $23 million in deferred taxes. This amount is being amortized as a reduction of future net periodic OPEB cost over approximately 8 years, which represents the future remaining service period of eligible employees.

The components of our net periodic pension and OPEB cost were as follows for the years ended December 31:

	Pension			OPEB		
Millions	***2020***	*2019*	*2018*	***2020***	*2019*	*2018*
Net Periodic Benefit Cost:						
Service cost	**$ 91**	$ 80	$ 105	**$ 1**	$ 1	$ 2
Interest cost	**137**	160	145	**5**	9	10
Expected return on plan assets	**(282)**	(273)	(272)			
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**(14)**	(7)	1
Actuarial loss	**104**	67	93	**7**	7	10
Net periodic benefit cost	**$ 50**	$ 34	$ 71	**$ (1)**	$ 10	$ 23

Assumptions – The weighted-average actuarial assumptions used to determine expense were as follows:

	Pension			*OPEB*		
Percentages	***2020***	*2019*	*2018*	***2020***	*2019*	*2018*
Discount rate for benefit obligations	**3.26%**	4.23%	3.62%	**3.14%**	3.79%	3.54%
Discount rate for interest on benefit obligations	**2.89%**	3.94%	3.27%	**2.68%**	3.40%	3.14%
Discount rate for service cost	**3.42%**	4.33%	3.77%	**3.21%**	3.92%	3.71%
Discount rate for interest on service cost	**3.36%**	4.30%	3.72%	**3.14%**	3.85%	3.64%
Expected return on plan assets	**7.00%**	7.00%	7.00%	**N/A**	N/A	N/A
Compensation increase	**4.10%**	4.10%	4.19%	**N/A**	N/A	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	N/A	**5.64%**	5.87%	6.09%
Ultimate health care cost trend rate	**N/A**	N/A	N/A	**4.50%**	4.50%	4.50%
Year ultimate trend reached	**N/A**	N/A	N/A	**2038**	2038	2038

We measure the service cost and interest cost components of our net periodic benefit cost by using individual spot discount rates matched with separate cash flows for each future year. The discount rates were based on a yield curve of high quality corporate bonds. The expected return on plan assets is based on our asset allocation mix and our historical return, taking into account current and expected market conditions. The actual return/loss on pension plan assets, net of fees, was approximately 16% in 2020, 20% in 2019, and (2%) in 2018.

Assumed health care cost trend rates have an effect on the expense and liabilities reported for health care plans. The assumed health care cost trend rate is based on historical rates and expected market conditions. The 2021 assumed health care cost trend rate for employees under 65 is 5.42%. It is assumed the rate will decrease gradually to an ultimate rate of 4.5% in 2038 and will remain at that level.

Cash Contributions

The following table details cash contributions, if any, for the qualified pension plans and the benefit payments for the non-qualified (supplemental) pension and OPEB plans:

	Pension		
Millions	*Qualified*	*Non-qualified*	*OPEB*
2020	$ -	$ 31	$ 19
2019	-	30	22

Our policy with respect to funding the qualified plans is to fund at least the minimum required by law and not more than the maximum amount deductible for tax purposes.

The non-qualified pension and OPEB plans are not funded and are not subject to any minimum regulatory funding requirements. Benefit payments for each year represent supplemental pension payments and claims paid for medical and life insurance. We anticipate our 2021 supplemental pension and OPEB payments will be made from cash generated from operations.

Benefit Payments

The following table details expected benefit payments for the years 2021 through 2030:

Millions	*Pension*	*OPEB*
2021	$ 228	$ 18
2022	226	14
2023	226	14
2024	225	10
2025	226	9
Years 2026 - 2030	1,158	42

Asset Allocation Strategy

Our pension plan asset allocation at December 31, 2020 and 2019, and target allocation for 2021, are as follows:

	Target Allocation 2021	Percentage of Plan Assets December 31, 2020	2019
Equity securities	50% to 60%	**63%**	63%
Debt securities	40% to 50%	**34**	31
Real estate	0% to 2%	**3**	6
Total		**100%**	100%

The investment strategy for pension plan assets is to maintain a broadly diversified portfolio designed to achieve our target average long-term rate of return. We decreased the expected rate of return for 2021 from 7% to 6.25% due to a shift of certain assets from equity to debt in alignment with our 2021 target asset allocation. While we believe we can achieve a long-term average rate of return of 6.25%, we cannot be certain that the portfolio will perform to our expectations. Assets are strategically allocated among equity, debt, and other investments in order to achieve a diversification level that reduces fluctuations in investment returns. Asset allocation target ranges for equity, debt, and other portfolios are evaluated at least every three years with the assistance of an independent consulting firm. Actual asset allocations are monitored monthly, and rebalancing actions are executed at least quarterly, as needed.

The pension plan investments are held in a Master Trust. The majority of pension plan assets are invested in equity securities because equity portfolios have historically provided higher returns than debt and other asset classes over extended time horizons and are expected to do so in the future. Correspondingly, equity investments also entail greater risks than other investments. Equity risks are balanced by investing a significant portion of the plans' assets in high quality debt securities. The average credit rating of the debt portfolio was A and A+ at December 31, 2020 and 2019, respectively. The debt portfolio is also broadly diversified and invested primarily in U.S. Treasury, mortgage, and corporate securities. The weighted-average maturity of the debt portfolio was 17 years and 14 years, respectively at December 31, 2020 and 2019.

The investment of pension plan assets in securities issued by UPC is explicitly prohibited by the plan for both the equity and debt portfolios, other than through index fund holdings.

Fair Value Measurements

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Temporary Cash Investments – These investments consist of U.S. dollars, foreign currencies, and commercial paper held in master trust accounts at The Northern Trust Company (the Trustee). Foreign currencies held are reported in terms of U.S. dollars based on currency exchange rates readily available in active markets. U.S. dollars and foreign currencies are classified as Level 1 investments. Commercial paper assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Commercial paper is classified as Level 2 investments.

Registered Investment Companies – Registered Investment Companies are entities primarily engaged in the business of investing in securities and are registered with the Securities and Exchange Commission. The Plan's holdings of Registered Investment Companies include both public and private fund vehicles. The public vehicles are exchange-traded funds (stocks), which are classified as Level 1 investments. The private vehicles (bonds) do not have published pricing and are valued using Net Asset Value (NAV).

Federal Government Securities – Federal Government Securities consist of bills, notes, bonds, and other fixed income securities issued directly by the U.S. Treasury or by government-sponsored enterprises. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Federal Government Securities are classified as Level 2 investments.

Bonds and Debentures – Bonds and debentures consist of debt securities issued by U.S. and non-U.S. corporations as well as state and local governments. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Corporate, state, and municipal bonds and debentures are classified as Level 2 investments.

Corporate Stock – This investment category consists of common and preferred stock issued by U.S. and non-U.S. corporations. Most common shares are traded actively on exchanges and price quotes for these shares are readily available. Common stock is classified as a Level 1 investment. Preferred shares included in this category are valued using a bid evaluation process with bid data provided by independent pricing sources. Preferred stock is classified as a Level 2 investment.

Venture Capital and Buyout Partnerships – This investment category is comprised of interests in limited partnerships that invest primarily in privately-held companies. Due to the private nature of the partnership investments, pricing inputs are not readily observable. Asset valuations are developed by the general partners that manage the partnerships. These valuations are based on the application of public market multiples to private company cash flows, market transactions that provide valuation information for comparable companies, and other methods. The fair value recorded by the Plan is calculated using each partnership's NAV.

Real Estate Funds – Most of the Plan's real estate investments are primarily interests in private real estate investment trusts, partnerships, limited liability companies, and similar structures. Valuations for the holdings in this category are not based on readily observable inputs and are primarily derived from property appraisals. The fair value recorded by the Plan is calculated using the NAV for each investment.

Collective Trust and Other Funds – Collective trust and other funds are comprised of shares or units in commingled funds and limited liability companies that are not publicly traded. The underlying assets in these entities (U.S. stock funds, non-U.S. stock funds, commodity funds, hedge funds, and short term investment funds) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. The fair value recorded by the Plan is calculated using NAV for each investment.

As of December 31, 2020, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 9	$ -	$ -	$ 9
Registered investment companies [a]	252	-	-	252
Federal government securities	-	150	-	150
Bonds and debentures	-	831	-	831
Corporate stock	2,209	8	-	2,217
Total plan assets at fair value	$ 2,470	$ 989	$ -	$ 3,459
Plan assets at NAV:				
Registered investment				312

companies [b]		
Venture capital and buyout partnerships		585
Real estate funds		161
Collective trust and other funds		498
Total plan assets at NAV	$	1,556
Other assets/ (liabilities) [c]		1
Total plan assets	$	5,016

[a] Registered investment companies measured at fair value are stock investments.
[b] Registered investment companies measured at NAV include bond investments.
[c] Other assets include accrued receivables, net payables, and pending broker settlements.

As of December 31, 2019, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 6	$ 1	$ -	$ 7
Registered investment companies [a]	9	-	-	9
Federal government securities	-	202	-	202
Bonds and debentures	-	575	-	575
Corporate stock	1,932	7	-	1,939
Total plan assets at fair value	$ 1,947	$ 785	$ -	$ 2,732
Plan assets at NAV:				
Registered investment companies [b]				285
Venture capital and buyout partnerships				531
Real estate funds				261
Collective trust and other funds				707
Total plan assets at NAV				$ 1,784
Other assets/(liabilities) [c]				12
Total plan assets				$ 4,528

[a] Registered investment companies measured at fair value are stock investments.
[b] Registered investment companies measured at NAV include bond investments.
[c] Other assets include accrued receivables, net payables, and pending broker settlements.

The Master Trust's investments in limited partnerships and similar structures (used to invest in private equity and real estate) are valued at fair value based on their proportionate share of the partnerships' fair value as recorded in the limited partnerships' audited financial statements. The limited partnerships allocate gains, losses, and expenses to the partners based on the ownership percentage as described in the partnership agreements. At December 31, 2020 and 2019, the Master Trust had future commitments for additional contributions to private equity partnerships totaling $147 million and $189 million, respectively, and to real estate partnerships and funds totaling $7 million and $8 million, respectively.

Other Retirement Programs

401(k)/Thrift Plan – For non-union employees hired prior to January 1, 2018, and eligible union employees for whom we make matching contributions, we provide a defined contribution plan (401(k)/thrift plan). We match 50% for each dollar contributed by employees up to the first 6% of compensation contributed. For non-union employees hired on or after January 1, 2018, we match 100% for each dollar, up to the first 6% of compensation contributed, in addition to contributing an annual amount of 3% of the employee's annual base salary. Our plan contributions were $19 million in 2020, $20 million in 2019, and $18 million in 2018.

Railroad Retirement System – All Railroad employees are covered by the Railroad Retirement System (the System). Contributions made to the System are expensed as incurred and amounted to approximately $569 million in 2020, $654 million in 2019, and $710 million in 2018.

Collective Bargaining Agreements – Under collective bargaining agreements, we participate in multi-employer benefit plans that provide certain postretirement health care and life insurance benefits for eligible union employees. Premiums paid under these plans are expensed as incurred and amounted to $30 million in 2020, $42 million in 2019, and $50 million in 2018.

6. Other Income

Other income included the following for the years ended December 31:

Millions		***2020***		*2019*		*2018*
Rental income	**$**	**123**	$	124	$	122
Net gain on non-operating asset dispositions [a]		**115**		20		30
Net periodic pension and OPEB costs		**44**		37		13
Interest income		**12**		32		30
Interest income on employment tax refund		**-**		31		-
Early extinguishment of debt		**-**		(2)		(85)
Non-operating environmental costs and other		**(7)**		1		(16)
Total	**$**	**287**	$	243	$	94

[a] 2020 includes a $69 million gain from a land and permanent easement sale to the Illinois State Toll Highway Authority.

7. Income Taxes

Components of income tax expense were as follows for the years ended December 31:

Millions		***2020***		*2019*		*2018*
Current tax expense:						
Federal	**$**	**1,026**	$	1,000	$	1,144
State		**259**		254		287
Foreign		**6**		8		5
Total current tax expense		**1,291**		1,262		1,436
Deferred and other tax expense:						
Federal		**295**		417		344
State		**45**		128		5
Foreign		-		21		(10)
Total deferred and other tax expense		**340**		566		339
Total income tax expense	**$**	**1,631**	$	1,828	$	1,775

For the years ended December 31, reconciliations between statutory and effective tax rates are as follows:

Tax Rate Percentages	***2020***	*2019*	*2018*
Federal statutory tax rate	**21.0 %**	21.0 %	21.0 %
State statutory rates, net of federal benefits	**3.7**	3.7	3.9
Excess tax benefits from equity compensation plans	**(0.8)**	(0.7)	(0.4)
Dividends received deduction	**(0.5)**	(0.6)	(0.6)
Deferred tax adjustments	**(0.1)**	(0.1)	(0.6)
Other	**0.1**	0.3	(0.4)
Effective tax rate	**23.4 %**	23.6 %	22.9 %

Deferred tax assets and liabilities are recorded for the expected future tax consequences of events that are reported in different periods for financial reporting and income tax purposes. The majority of our deferred tax assets relate to deductions that already have been claimed for financial reporting purposes but not for tax purposes. The majority of our deferred tax liabilities relate to differences between the tax bases and financial reporting amounts of our land and depreciable property, due to accelerated tax depreciation (including bonus depreciation), revaluation of assets in purchase accounting transactions, and differences in capitalization methods.

In 2019, Arkansas enacted legislation to reduce their corporate income tax rate for future years resulting in a $21 million reduction of our deferred tax expense.

In 2018, Iowa and Missouri enacted legislation to reduce their corporate tax rates for future years resulting in a $31 million reduction of our deferred tax expense.

Deferred income tax (liabilities)/assets were comprised of the following at December 31:

Millions		***2020***		*2019*
Deferred income tax liabilities:				
Property	**$**	**(12,474)**	$	(12,184)
Operating lease assets		**(397)**		(447)
Other		**(444)**		(341)
Total deferred income tax liabilities		**(13,315)**		(12,972)
Deferred income tax assets:				
Accrued wages		**40**		45
Accrued casualty costs		**143**		146
Stock compensation		**26**		37
Retiree benefits		**255**		171
Operating lease liabilities		**396**		453
Other		**208**		128
Total deferred income tax assets		**1,068**		980
Net deferred income tax liability	**$**	**(12,247)**	$	(11,992)

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2020 and 2019, there were no valuation allowances.

Tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

A reconciliation of changes in unrecognized tax benefits liabilities/(assets) from the beginning to the end of the reporting period is as follows:

Millions		***2020***		*2019*		*2018*
Unrecognized tax benefits at January 1	**$**	**64**	$	174	$	179
Increases for positions taken in current year		**18**		20		30
Increases for positions taken in prior years		**7**		44		9
Decreases for positions taken in prior years		**(19)**		(96)		(30)
Refunds from/ (payments to) and settlements with taxing authorities		**-**		(11)		21
Increases/ (decreases) for interest and penalties		**5**		(5)		4
Lapse of statutes of limitations		**(1)**		(62)		(39)
Unrecognized tax benefits at December 31	**$**	**74**	$	64	$	174

We recognize interest and penalties as part of income tax expense. Total accrued liabilities for interest and penalties were $8 million and $3 million at December 31, 2020 and 2019, respectively. Total interest and penalties recognized as part of income tax expense (benefit) were $5 million for 2020, ($4) million for 2019, and ($1) million for 2018.

In the second quarter of 2019, UPC signed final Revenue Agent Reports (RARs) from the Internal Revenue Service (IRS) for the limited scope audits of UPC's 2016 and 2017 tax returns. As a result of the signed RARs, UPC paid the IRS $11 million in the third quarter of 2019, consisting of $10 million of tax and $1 million of interest. The statute of limitations has run for all years prior to 2017.

In 2017, UPC amended its 2013 income tax return, primarily to claim deductions resulting from the resolution of prior year IRS examinations. The IRS and Joint Committee on Taxation reviewed our 2013 amended return, and in the second quarter of 2018 we received a refund of $19 million.

Several state tax authorities are examining our state income tax returns for years 2015 through 2018.

We do not expect our unrecognized tax benefits to change significantly in the next 12 months.

The portion of our unrecognized tax benefits that relates to permanent changes in tax and interest would reduce our effective tax rate, if recognized. The remaining unrecognized tax benefits relate to tax positions for which only the timing of the benefit is uncertain. Recognition of the tax benefits with uncertain timing would reduce our effective tax rate only through a reduction of accrued interest and penalties. The unrecognized tax benefits that would reduce our effective tax rate are as follows:

Millions		***2020***		*2019*		*2018*
Unrecognized tax benefits that would reduce the effective tax rate	**$**	**52**	$	39	$	63
Unrecognized tax benefits that would not reduce the effective tax rate		**22**		25		111
Total unrecognized tax benefits	**$**	**74**	$	64	$	174

8. Earnings Per Share

The following table provides a reconciliation between basic and diluted earnings per share for the years ended December 31:

Millions, Except Per Share Amounts		***2020***		*2019*		*2018*
Net income	**$**	**5,349**	$	5,919	$	5,966
Weighted-average number of shares outstanding:						
Basic		**677.3**		703.5		750.9
Dilutive effect of stock options		**0.8**		1.2		1.9
Dilutive effect of retention shares and units		**1.0**		1.4		1.5
Diluted		**679.1**		706.1		754.3
Earnings per share – basic	**$**	**7.90**	$	8.41	$	7.95
Earnings per share – diluted	**$**	**7.88**	$	8.38	$	7.91

Common stock options totaling 0.3 million, 0.5 million, and 0.3 million for 2020, 2019, and 2018, respectively, were excluded from the computation of diluted earnings per share because the exercise prices of these options exceeded the average market price of our common stock for the respective periods, and the effect of their inclusion would be anti-dilutive.

9. Accumulated Other Comprehensive Income/Loss

Reclassifications out of accumulated other comprehensive income/loss were as follows (net of tax):

Millions		*Defined benefit plans*		*Foreign currency translation*		*Total*
Balance at January 1, 2020	$	(1,150)	$	(206)	$	(1,356)
Other comprehensive income/(loss) before reclassifications		2		(6)		(4)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]		(233)		-		(233)
Net year-to-date other comprehensive income/(loss), net of taxes of $75 million		(231)		(6)		(237)
Balance at December 31, 2020	$	(1,381)	$	(212)	$	(1,593)
Balance at January 1, 2019	$	(1,192)	$	(223)	$	(1,415)
Other comprehensive income/(loss) before reclassifications		(86)		17		(69)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]		36		-		36
OPEB Plan amendment (Note 5)		92		-		92
Net year-to-date other comprehensive income/(loss), net of taxes of ($15) million		42		17		59
Balance at December 31, 2019	$	(1,150)	$	(206)	$	(1,356)

[a] The accumulated other comprehensive income/loss reclassification components are 1) prior service cost/(credit) and 2) net actuarial loss which are both included in the computation of net periodic pension cost. See Note 5 Retirement Plans for additional details.

10. Accounts Receivable

Accounts receivable includes freight and other receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, creditworthiness of customers, and current economic conditions. At December 31, 2020 and 2019, our accounts receivable were reduced by $17 million and $4 million, respectively. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position. At December 31, 2020 and 2019, receivables classified as other assets were reduced by allowances of $51 million and $35 million, respectively.

Receivables Securitization Facility – The Railroad maintains an $800 million, 3-year receivables securitization facility (the Receivables Facility) maturing in July 2022. Under the Receivables Facility, the Railroad sells most of its eligible third-party receivables to Union Pacific Receivables, Inc. (UPRI), a consolidated, wholly-owned, bankruptcy-remote subsidiary that may subsequently transfer, without recourse, an undivided interest in accounts receivable to investors. The investors have no recourse to the Railroad’s other assets except for customary warranty and indemnity claims. Creditors of the Railroad do not have recourse to the assets of UPRI.

The amount recorded under the Receivables Facility was $0 and $400 million at December 31, 2020 and 2019, respectively. The Receivables Facility was supported by $1.2 billion and $1.3 billion of accounts receivable as collateral at December 31, 2020 and 2019, respectively, which, as a retained interest, is included in accounts receivable, net in our Consolidated Statements of Financial Position.

The outstanding amount the Railroad is allowed to maintain under the Receivables Facility, with a maximum of $800 million, may fluctuate based on the availability of eligible receivables and is directly affected by business volumes and credit risks, including receivables payment quality measures such as default and dilution ratios. If default or dilution ratios increase one percent, the allowable outstanding amount under the Receivables Facility would not materially change.

The costs of the Receivables Facility include interest, which will vary based on prevailing benchmark and commercial paper rates, program fees paid to participating banks, commercial paper issuance costs, and fees of participating banks for unused commitment availability. The costs of the Receivables Facility are included in interest expense and were $7 million, $14 million, and $15 million for 2020, 2019, and 2018, respectively.

11. Properties

The following tables list the major categories of property and equipment as well as the weighted-average estimated useful life for each category (in years):

Millions, Except Estimated Useful Life *As of December 31, 2020*	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,246	$ N/A	$ 5,246	N/A
Road:				
Rail and other track material	17,620	6,631	10,989	42
Ties	11,051	3,331	7,720	34
Ballast	5,926	1,753	4,173	34
Other roadway [a]	21,030	4,329	16,701	48
Total road	55,627	16,044	39,583	N/A
Equipment:				
Locomotives	9,375	3,555	5,820	17
Freight cars	2,118	789	1,329	25
Work equipment and other	1,107	351	756	18
Total equipment	12,600	4,695	7,905	N/A
Technology and other	1,199	520	679	13
Construction in progress	748	-	748	N/A
Total	$ 75,420	$ 21,259	$ 54,161	N/A

Millions, Except Estimated Useful Life *As of December 31, 2019*	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,276	$ N/A	$ 5,276	N/A
Road:				
Rail and other track material	17,178	6,381	10,797	42
Ties	10,693	3,186	7,507	34
Ballast	5,752	1,669	4,083	34
Other roadway [a]	20,331	4,056	16,275	48
Total road	53,954	15,292	38,662	N/A
Equipment:				
Locomotives	9,467	3,434	6,033	18
Freight cars	2,083	779	1,304	25
Work equipment and other	1,081	322	759	18
Total equipment	12,631	4,535	8,096	N/A
Technology and other	1,136	503	633	12
Construction in progress	1,249	-	1,249	N/A
Total	$ 74,246	$ 20,330	$ 53,916	N/A

[a] Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. We perform depreciation studies at least every 3 years for equipment and every 6 years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) is unusual, (ii) is material in amount, and (iii) varies significantly from the retirement profile identified through our depreciation studies. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

We review construction in progress assets that have not yet been placed into service, for impairment when events or changes in circumstances indicate that the carrying amount of a long-lived asset or assets may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of construction in progress assets when grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent, the carrying value is reduced to the estimated fair value.

When we purchase an asset, we capitalize all costs necessary to make the asset ready for its intended use. However, many of our assets are self-constructed. A large portion of our capital expenditures is for replacement of existing track assets and other road properties, which is typically performed by our employees, and for track line expansion and other capacity projects. Costs that are directly attributable to capital projects (including overhead costs) are capitalized. Direct costs that are capitalized as part of self-constructed assets include material, labor, and work equipment. Indirect costs are capitalized if they clearly relate to the construction of the asset.

Costs incurred that extend the useful life of an asset, improve the safety of our operations, or improve operating efficiency are capitalized, while normal repairs and maintenance are expensed as incurred. These costs are allocated using appropriate statistical bases. Total expense for repairs and maintenance incurred was $2.0 billion for 2020, $2.3 billion for 2019, and $2.5 billion for 2018.

Assets held under finance leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

Brazos Yard Impairment – In the fourth quarter of 2020, we made the strategic decision that our Brazos yard investments made to date will be used for freight car block swapping activities, rather than proceeding with additional investments required to complete the freight car classification yard. As a result, we recorded a non-cash impairment charge of $278 million, recognized in other expense in our Consolidated Statements of Income. The Brazos yard investment was recorded as construction in progress as it had not yet been placed into service. We estimated the fair value of the remaining Brazos investments not used for freight car block swapping activities based on market values of similar assets, which are Level 2 inputs.

12. Accounts Payable and Other Current Liabilities

Millions	***Dec. 31, 2020***	*Dec. 31, 2019*
Income and other taxes payable	**$ 635**	$ 496
Accounts payable	**612**	749
Accrued wages and vacation	**340**	370
Interest payable	**326**	289
Current operating lease liabilities (Note 16)	**321**	362
Accrued casualty costs	**177**	190
Equipment rents payable	**101**	100
Other	**592**	538
Total accounts payable and other current liabilities	**$ 3,104**	$ 3,094

13. Financial Instruments

Short-Term Investments – All of the Company's short-term investments consist of time deposits and government agency securities. These investments are considered Level 2 investments and are valued at amortized cost, which approximates fair value. As of December 31, 2020, the Company had $70 million of short-term investments, of which $10 million are in a trust for the purpose of providing collateral for payment of certain other long-term liabilities, and as such are reclassified as other assets. All short-term investments have a maturity of less than one year and are classified as held-to-maturity. There were no transfers out of Level 2 during the year ended December 31, 2020.

Fair Value of Financial Instruments – The fair value of our short- and long-term debt was estimated using a market value price model, which utilizes applicable U.S. Treasury rates along with current market quotes on comparable debt securities. All of the inputs used to determine the fair market value of the Corporation's long-term debt are Level 2 inputs and obtained from an independent source. At December 31, 2020, the fair value of total debt was $31.9 billion, approximately $5.1 billion more than the carrying value. At December 31, 2019, the fair value of total debt was $27.2 billion, approximately $2.0 billion more than the carrying value. The fair value of the Corporation's debt is a measure of its current value under present market conditions. It does not impact the financial statements under current accounting rules. The fair value of our cash equivalents approximates their carrying value due to the short-term maturities of these instruments.

14. Debt

Total debt as of December 31, 2020 and 2019, is summarized below:

Millions		***2020***		*2019*
Notes and debentures, 2.2% to 7.1% due through February 5, 2070	**$**	**26,608**	$	24,008
Equipment obligations, 2.6% to 6.2% due through January 2, 2031		**885**		923
Finance leases, 3.1% to 8.0% due through December 10, 2028		**449**		605
Term loans - floating rate, due October 28, 2021		**250**		250
Commercial paper, 0.2% to 0.3% due through January 21, 2021		**75**		200
Receivables securitization (Note 10)		**-**		400
Medium-term notes		**-**		8
Unamortized discount and deferred issuance costs		**(1,538)**		(1,194)
Total debt		**26,729**		25,200
Less: current portion		**(1,069)**		(1,257)
Total long-term debt	**$**	**25,660**	$	23,943

Debt Maturities – The following table presents aggregate debt maturities as of December 31, 2020, excluding market value adjustments:

Millions		
2021	$	1,072
2022		1,384
2023		1,384
2024		1,439
2025		1,429
Thereafter		21,559
Total principal		28,267
Unamortized discount and deferred issuance costs		(1,538)
Total debt	$	26,729

Equipment Encumbrances – Equipment with a carrying value of approximately $1.3 billion and $1.6 billion at December 31, 2020 and 2019, respectively, served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Debt Redemptions – On November 1, 2020, we redeemed all $500 million of outstanding 4.0% notes due February 1, 2021, at a redemption price equal to 100% of the principal amount of the notes plus accrued and unpaid interest.

Effective October 15, 2019, we redeemed all $163 million of our outstanding 6.125% notes due February 15, 2020. The redemption resulted in an early extinguishment charge of $2 million in the fourth quarter of 2019.

Debt Exchange - On September 16, 2020, we exchanged $1,047 million of various outstanding notes and debentures due between May 1, 2037, and March 1, 2049 (the Existing Notes), for $1,047 million of 2.973% notes (the New Notes) due September 16, 2062, plus cash consideration of approximately $319 million in addition to $4 million for accrued and unpaid interest on the Existing Notes. In accordance with ASC 470-50-40, *Debt-Modifications and Extinguishments-Derecognition*, this transaction was accounted for as a debt exchange, as the exchanged debt instruments are not considered to be substantially different. The cash consideration was recorded as an adjustment to the carrying value of debt, and the balance of the unamortized discount and issue costs from the Existing Notes is being amortized as an adjustment of interest expense over the terms of the New Notes. No gain or loss was recognized as a result of the exchange. Costs related to the debt exchange that were payable to parties other than the debt holders totaled approximately $9 million and were included in interest expense during the quarter ended September 30, 2020.

On November 20, 2019, we exchanged $1,839 million of various outstanding notes and debentures due between June 1, 2033, and September 10, 2058 (the Existing Notes), for $1,842 million of 3.839% notes (the New Notes) due March 20, 2060, plus cash consideration of approximately $373 million in addition to $19 million for accrued and unpaid interest on the Existing Notes. In accordance with ASC 470-50-40, *Debt-Modifications and Extinguishments-Derecognition*, this transaction was accounted for as a debt exchange, as the exchanged debt instruments are not considered to be substantially different. The cash consideration was recorded as an adjustment to the carrying value of debt, and the balance of the unamortized discount and issue costs from the Existing Notes is being amortized as an adjustment of interest expense over the terms of the New Notes. No gain or loss was recognized as a result of the exchange. Costs related to the debt exchange that were payable to parties other than the debt holders totaled approximately $15 million and were included in interest expense in the fourth quarter of 2019.

Credit Facilities – At December 31, 2020, we had $2.0 billion of credit available under our revolving credit facility, which is designated for general corporate purposes and supports the issuance of commercial paper. Credit facility withdrawals totaled $0 during 2020. Commitment fees and interest rates payable under the Facility are similar to fees and rates available to comparably rated, investment-grade borrowers. The Facility allows for borrowings at floating rates based on LIBOR, plus a spread, depending upon credit ratings for our senior unsecured debt. The 5 year facility requires UPC to maintain a debt-to-EBITDA (earnings before interest, taxes, depreciation, and amortization) coverage ratio.

The definition of debt used for purposes of calculating the debt-to-EBITDA coverage ratio includes, among other things, certain credit arrangements, finance leases, guarantees, unfunded and vested pension benefits under Title IV of ERISA, and unamortized debt discount and deferred debt issuance costs. At December 31, 2020, the Company was in compliance with the debt-to-EBITDA coverage ratio, which allows us to carry up to $36.8 billion of debt (as defined in the Facility), and we had $28.3 billion of debt (as defined in the Facility) outstanding at that date. The Facility does not include any other financial restrictions, credit rating triggers (other than rating-dependent pricing), or any other provision that could require us to post collateral. The Facility also includes a $150 million cross-default provision and a change-of-control provision.

During 2020, we issued $2.3 billion and repaid $2.5 billion of commercial paper with maturities ranging from 14 to 74 days. As of December 31, 2020 and 2019, we had $75 million and $200 million of commercial paper outstanding, respectively. Our revolving credit facility supports our outstanding commercial paper balances, and, unless we change the terms of our commercial paper program, our aggregate issuance of commercial paper will not exceed the amount of borrowings available under the Facility.

In May 2020, we entered into three bilateral revolving credit lines which mature by May 18, 2021, totaling
$600 million of available credit. Since entering into the three bilateral revolving credit lines, we drew $300 million and repaid $300 million, and at December 31, 2020, we had $0 outstanding.

Shelf Registration Statement and Significant New Borrowings – In 2019, our Board of Directors reauthorized the issuance of up to $6 billion of debt securities. Under our shelf registration, we may issue, from time to time any combination of debt securities, preferred stock, common stock, or warrants for debt securities or preferred stock in one or more offerings.

During 2020, we issued the following unsecured, fixed-rate debt securities under our shelf registration:

Date	*Description of Securities*
January 31, 2020	$500 million of 2.150% Notes due February 5, 2027
	$750 million of 2.400% Notes due February 5, 2030
	$1.0 billion of 3.250% Notes due February 5, 2050
	$750 million of 3.750% Notes due February 5, 2070
April 7, 2020	$750 million of 3.250% Notes due February 5, 2050

We used the net proceeds from the offerings for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs. These debt securities include change-of-control provisions. At December 31, 2020, we had remaining authority to issue up to $2.25 billion of debt securities under our shelf registration.

Receivables Securitization Facility – As of December 31, 2020 and 2019, we recorded $0 and $400 million, respectively, of borrowings under our Receivables Facility, as secured debt. (See further discussion of our receivables securitization facility in Note 10).

LIBOR Transition – Each of our $2.0 billion revolving credit facility, three bilateral revolving credit lines, two term loans, and Receivables Securitization Facility currently use LIBOR as the benchmark for its floating interest rates. Authorities that regulate LIBOR have announced plans to phase out LIBOR so that it will, at some point, cease to exist as a benchmark for floating interest rates. To address the phase out of LIBOR, the agreements for substantially all of these facilities include a mechanism to replace LIBOR with an alternative rate or benchmark under specified circumstances through an amendment to the agreements. As part of this process, we will need to renegotiate our agreements to reference that alternative rate or benchmark, and may need to modify our existing benchmark replacement language, or obtain replacement facilities.

15. Variable Interest Entities

We have entered into various lease transactions in which the structure of the leases contain variable interest entities (VIEs). These VIEs were created solely for the purpose of doing lease transactions (principally involving railroad equipment and facilities) and have no other activities, assets, or liabilities outside of the lease transactions. Within these lease arrangements, we have the right to purchase some or all of the assets at fixed prices. Depending on market conditions, fixed-price purchase options available in the leases could potentially provide benefits to us; however, these benefits are not expected to be significant.

We maintain and operate the assets based on contractual obligations within the lease arrangements, which set specific guidelines consistent within the railroad industry. As such, we have no control over activities that could materially impact the fair value of the leased assets. We do not hold the power to direct the activities of the VIEs and, therefore, do not control the ongoing activities that have a significant impact on the economic performance of the VIEs. Additionally, we do not have the obligation to absorb losses of the VIEs or the right to receive benefits of the VIEs that could potentially be significant to the VIEs.

We are not considered to be the primary beneficiary and do not consolidate these VIEs because our actions and decisions do not have the most significant effect on the VIE's performance and our fixed-price purchase options are not considered to be potentially significant to the VIEs. The future minimum lease payments associated with the VIE leases totaled $1.3 billion as of December 31, 2020, and are recorded as operating lease liabilities at present value in our Consolidated Statements of Financial Position.

16. Leases

We lease certain locomotives, freight cars, and other property for use in our rail operations. We determine if an arrangement is or contains a lease at inception. We have lease agreements with lease and non-lease components and we have elected to not separate lease and non-lease components for all classes of underlying assets. Leases with an initial term of 12 months or less are not recorded on our Consolidated Statements of Financial Position; we recognize lease expense for these leases on a straight-line basis over the lease term. Leases with initial terms in excess of 12 months are recorded as operating or financing leases in our Consolidated Statements of Financial Position. Operating leases are included in operating lease assets, accounts payable and other current liabilities, and operating lease liabilities on our Consolidated Statements of Financial Position. Finance leases are included in net properties, debt due within one year, and debt due after one year on our Consolidated Statements of Financial Position.

Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, we use a collateralized incremental borrowing rate for all operating leases based on the information available at commencement date, including lease term, in determining the present value of future payments. The operating lease asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Operating lease expense is recognized on a straight-line basis over the lease term and reported in equipment and other rents, and financing lease expense is recorded as depreciation and interest expense in our Consolidated Statements of Income.

The following are additional details related to our lease portfolio:

Millions	*Classification*	*Dec. 31, 2020*	*Dec. 31, 2019*
Assets			
Operating leases	Operating lease assets	$ 1,610	$ 1,812
Finance leases	Net properties [a]	370	468
Total leased assets		$ 1,980	$ 2,280
Liabilities			
Current			
Operating	Accounts payable and other current liabilities	$ 321	$ 362
Finance	Debt due within one year	109	114
Noncurrent			
Operating	Operating lease liabilities	1,283	1,471
Finance	Debt due after one year	340	491
Total lease liabilities		$ 2,053	$ 2,438

[a] *Finance lease assets are recorded net of accumulated amortization of $737 million and $797 million as of December 31, 2020 and 2019, respectively.*

The lease cost components are classified as follows:

Millions	*Classification*	*Dec. 31, 2020*	*Dec. 31, 2019*
Operating lease cost [a]	Equipment and other rents	$ 247	$ 305
Operating lease cost [a]	Purchased services and materials	40	40
Operating lease cost [a]	Capitalized in net properties	30	21
Finance lease cost			
Amortization of leased assets	Depreciation	66	72
Interest on lease liabilities	Interest expense	27	34
Net lease cost		$ 410	$ 472

[a] *In addition to the lease cost components referenced above, we had short-term lease costs of $26 million and $27 million as of December 31, 2020 and 2019, respectively, and variable lease costs of $10 million and $12 million as of December 31, 2020 and 2019, respectively.*

The following table presents aggregate lease maturities as of December 31, 2020:

Millions	*Operating Leases*	*Finance Leases*	*Total*
2021	$ 325	$ 135	$ 460
2022	273	111	384
2023	229	81	310
2024	220	68	288
2025	216	45	261
After 2025	567	77	644
Total lease payments	$ 1,830	$ 517	$ 2,347
Less: Interest	226	68	294
Present value of lease liabilities	$ 1,604	$ 449	$ 2,053

The following table presents the weighted average remaining lease term and discount rate:

	Dec. 31, 2020
Weighted-average remaining lease term (years)	
Operating leases	7.9
Finance leases	5.2
Weighted-average discount rate (%)	
Operating leases	3.7
Finance leases	5.1

The following table presents other information related to our operating and finance leases for the year ended December 31:

Millions	*2020*	*2019*
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 323	$ 387
Investing cash flows from operating leases	30	21
Operating cash flows from finance leases	29	35
Financing cash flows from finance leases	113	112
Leased assets obtained in exchange for finance lease liabilities	-	-
Leased assets obtained in exchange for operating lease liabilities	93	118

17. Commitments and Contingencies

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2020. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $270 million to $295 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions		***2020***		*2019*		*2018*
Beginning balance	**$**	**265**	$	271	$	285
Current year accruals		**72**		78		74
Changes in estimates for prior years		**(3)**		(11)		(16)
Payments		**(64)**		(73)		(72)
Ending balance at December 31	**$**	**270**	$	265	$	271
Current portion, ending balance at December 31	**$**	**60**	$	63	$	72

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2020 and 2019. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 373 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 29 sites that are the subject of actions taken by the U.S. government, 18 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions		***2020***		*2019*		*2018*
Beginning balance	**$**	**227**	$	223	$	196
Accruals		**76**		67		84
Payments		**(70)**		(63)		(57)
Ending balance at December 31	**$**	**233**	$	227	$	223
Current portion, ending balance at December 31	**$**	**65**	$	62	$	59

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Insurance – The Company has a consolidated, wholly-owned captive insurance subsidiary (the captive), that provides insurance coverage for certain risks including FELA claims and property coverage that are subject to reinsurance. The captive entered into annual reinsurance treaty agreements that insure workers compensation, general liability, auto liability, and FELA risk. The captive cedes a portion of its FELA exposure through the treaty and assumes a proportionate share of the entire risk. The captive receives direct premiums, which are netted against the Company's premium costs in other expenses in the Consolidated Statements of Income. The treaty agreements provide for certain protections against the risk of treaty participants’ non-performance, and we do not believe our exposure to treaty participants’ non-performance is material at this time. We record both liabilities and reinsurance receivables using an actuarial analysis based on historical experience in our Consolidated Statements of Financial Position.

Effective January 2019, the captive insurance subsidiary no longer participates in the reinsurance treaty agreement. The Company established a trust in the fourth quarter of 2018 for the purpose of providing collateral as required under the reinsurance treaty agreement for prior years' participation.

Guarantees – At December 31, 2020 and 2019, we were contingently liable for $10 million and $15 million, respectively, in guarantees. The fair value of these obligations as of both December 31, 2020 and 2019 was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

Indemnities – We are contingently obligated under a variety of indemnification arrangements, although in some cases the extent of our potential liability is limited, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

18. Share Repurchase Programs

Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions. As of December 31, 2020, we repurchased a total of $40.9 billion of our common stock since commencement of our repurchase programs in 2007. The table below represents shares repurchased under repurchase programs during 2019 and 2020:

	Number of Shares Purchased		*Average Price Paid [a]*	
	2020	*2019*	***2020***	*2019*
First quarter [b]	**14,305,793**	18,149,450	**$ 178.66**	$ 165.79
Second quarter	**-**	3,732,974	**-**	171.24
Third quarter [c]	**4,045,575**	9,529,733	**98.87**	163.30
Fourth quarter	**3,780,743**	3,582,212	**198.07**	167.32
Total	**22,132,111**	34,994,369	**$ 167.39**	$ 165.85
Remaining number of shares that may be repurchased under current authority				111,022,970

[a] In the period of the final settlement, the average price paid under the accelerated share repurchase programs is calculated based on the total program value less the value assigned to the initial delivery of shares. The average price of the completed 2020 and 2019 accelerated share repurchase programs was $155.86 and $167.01, respectively.
[b] Includes 8,786,380 and 11,795,930 shares repurchased in February 2020 and 2019, respectively, under accelerated share repurchase programs.
[c] Includes an incremental 4,045,575 and 3,172,900 shares received upon final settlement in July 2020 and August 2019, respectively, under accelerated share repurchase programs.

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2021, through February 4, 2021, we repurchased 2.1 million shares at an aggregate cost of approximately $442 million.

Accelerated Share Repurchase Programs – The Company has established accelerated share repurchase programs (ASRs) with financial institutions to repurchase shares of our common stock. These ASRs have been structured so that at the time of commencement, we pay a specified amount to the financial institutions and receive an initial delivery of shares. Additional shares may be received at the time of settlement. The final number of shares to be received is based on the volume weighted average price of

the Company's common stock during the ASR term, less a discount and subject to potential adjustments pursuant to the terms of such ASR.

On February 19, 2020, the Company received 8,786,380 shares of its common stock repurchased under ASRs for an aggregate of $2.0 billion. Upon settlement of these ASRs in the third quarter of 2020, we received 4,045,575 additional shares.

On February 26, 2019, the Company received 11,795,930 shares of its common stock repurchased under ASRs for an aggregate of $2.5 billion. Upon settlement of these ASRs in the third quarter of 2019, we received 3,172,900 additional shares.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

19. Related Parties

UPRR and other North American railroad companies jointly own TTX Company (TTX). UPRR has a 36.79% economic and voting interest in TTX while the other North American railroads own the remaining interest. In accordance with ASC 323 *Investments - Equity Method and Joint Venture*, UPRR applies the equity method of accounting to our investment in TTX.

TTX is a rail car pooling company that owns rail cars and intermodal wells to serve North America's railroads. TTX assists railroads in meeting the needs of their customers by providing rail cars in an efficient, pooled environment. All railroads have the ability to utilize TTX rail cars through car hire by renting rail cars at stated rates.

UPRR had $1.5 billion and $1.4 billion recognized as investments related to TTX in our Consolidated Statements of Financial Position as of December 31, 2020 and 2019, respectively. TTX car hire expenses of $375 million in 2020, $407 million in 2019, and $429 million in 2018 are included in equipment and other rents in our Consolidated Statements of Income. In addition, UPRR had accounts payable to TTX of $59 million and $62 million at December 31, 2020 and 2019, respectively.

20. Selected Quarterly Data (Unaudited)

Millions, Except Per Share Amounts				
2020	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,229	$ 4,244	$ 4,919	$ 5,141
Operating income	2,143	1,654	2,031	2,006
Net income	1,474	1,132	1,363	1,380
Net income per share:				
Basic	2.15	1.67	2.02	2.05
Diluted	2.15	1.67	2.01	2.05

Millions, Except Per Share Amounts				
2019	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,384	$ 5,596	$ 5,516	$ 5,212
Operating income	1,960	2,260	2,234	2,100
Net income	1,391	1,570	1,555	1,403
Net income per share:				
Basic	1.94	2.23	2.22	2.03
Diluted	1.93	2.22	2.22	2.02

Per share net income for the four quarters combined may not equal the per share net income for the year due to rounding.

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

None.

Item 9A. Controls and Procedures

As of the end of the period covered by this report, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation’s management, including the Corporation’s Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Corporation’s disclosure controls and procedures pursuant to Exchange Act Rules 13a-15 and 15d-15. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based upon that evaluation, the CEO and the CFO concluded that, as of the end of the period covered by this report, the Corporation’s disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified by the SEC, and that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, the CEO and CFO determined that there were no changes to the Corporation’s internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation’s internal control over financial reporting.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Union Pacific Corporation and Subsidiary Companies (the Corporation) is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2020. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control – Integrated Framework (2013)*. Based on our assessment, management believes that, as of December 31, 2020, the Corporation's internal control over financial reporting is effective based on those criteria.

The Corporation's independent registered public accounting firm has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting. This report appears on the next page.

February 4, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2020, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2020, of the Corporation and our report dated February 5, 2021 expressed an unqualified opinion on those financial statements.

The Corporation'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 Corporation'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 Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 5, 2021

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

(a) Directors of Registrant.

Information as to the names, ages, positions, and offices with UPC, terms of office, periods of service, business experience during the past five years, and certain other directorships held by each director or person nominated to become a director of UPC is set forth in the Election of Directors segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee and the independence of its members, along with information about the audit committee financial expert(s) serving on the Audit Committee, is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

(b) Executive Officers of Registrant.

Information concerning the executive officers of UPC and its subsidiaries is presented in Part I of this report under Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries.

(c) Delinquent Section 16(a) Reports.

Information concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth in the Section 16(a) Beneficial Ownership Reporting Compliance segment of the Proxy Statement and is incorporated herein by reference.

(d) Code of Ethics for Chief Executive Officer and Senior Financial Officers of Registrant.

The Board of Directors of UPC has adopted the UPC Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the Code). A copy of the Code may be found on the Internet at our website www.up.com/investor/governance. We intend to disclose any amendments to the Code or any waiver from a provision of the Code on our website.

Item 11. Executive Compensation

Information concerning compensation received by our directors and our named executive officers is presented in the Compensation Discussion and Analysis, Summary Compensation Table, Grants of Plan-Based Awards in Fiscal Year 2020, Outstanding Equity Awards at 2020 Fiscal Year-End, Option Exercises and Stock Vested in Fiscal Year 2020, Pension Benefits at 2020 Fiscal Year-End, Nonqualified Deferred Compensation at 2020 Fiscal Year-End, Potential Payments Upon Termination or Change in Control and Director Compensation in Fiscal Year 2020 segments of the Proxy Statement and is incorporated herein by reference. Additional information regarding compensation of directors, including Board committee members, is set forth in the By-Laws of UPC and the Stock Unit Grant and Deferred Compensation Plan for the Board of Directors, both of which are included as exhibits to this report. Information regarding the Compensation and Benefits Committee is set forth in the Compensation Committee Interlocks and Insider Participation and Compensation Committee Report segments of the Proxy Statement and is incorporated herein by reference.

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

Information as to the number of shares of our equity securities beneficially owned by each of our directors and nominees for director, our named executive officers, our directors and executive officers as a group, and certain beneficial owners is set forth in the Security Ownership of Certain Beneficial Owners and Management segment of the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions and Director Independence

Information on related transactions is set forth in the Certain Relationships and Related Transactions and Compensation Committee Interlocks and Insider Participation segments of the Proxy Statement and is incorporated herein by reference. We do not have any relationship with any outside third party that would enable such a party to negotiate terms of a material transaction that may not be available to, or available from, other parties on an arm's-length basis.

Information regarding the independence of our directors is set forth in the Director Independence segment of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information concerning the fees billed by our independent registered public accounting firm and the nature of services comprising the fees for each of the two most recent fiscal years in each of the following categories: (i) audit fees, (ii) audit-related fees, (iii) tax fees, and (iv) all other fees, is set forth in the Independent Registered Public Accounting Firm's Fees and Services segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee's policies and procedures pertaining to pre-approval of audit and non-audit services rendered by our independent registered public accounting firm is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules, and Exhibits:

(1) Financial Statements

The financial statements filed as part of this filing are listed on the index to the Financial Statements and Supplementary Data, Item 8, on page 46.

(2) Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

Schedules not listed above have been omitted because they are not applicable or not required or the information required to be set forth therein is included in the Financial Statements and Supplementary Data, Item 8, or notes thereto.

(3) Exhibits

Exhibits are listed in the exhibit index beginning on page 89. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2020***		*2019*		*2018*
Accrued casualty costs:						
Balance, beginning of period	**$**	**657**	$	709	$	684
Charges to expense		**231**		215		202
Cash payments and other reductions		**(244)**		(267)		(177)
Balance, end of period	**$**	**644**	$	657	$	709
Accrued casualty costs are presented in the Consolidated Statements of Financial Position as follows:						
Current	**$**	**177**	$	190	$	211
Long-term		**467**		467		498
Balance, end of period	**$**	**644**	$	657	$	709

UNION PACIFIC CORPORATION
Exhibit Index

Exhibit No.	Description
Filed with this Statement	
10(a)†	Form of Performance Stock Unit Agreement dated February 4, 2021.
10(b)†	Form of Non-Qualified Stock Option Agreement for Executives dated February 4, 2021.
10(c)†	Deferred Compensation Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended December 9, 2020.
10(d)†	Supplemental Pension Plan for Officers and Managers (409A Non-Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended December 9, 2020.
21	List of the Corporation's significant subsidiaries and their respective states of incorporation.
23	Independent Registered Public Accounting Firm's Consent.
24	Powers of attorney executed by the directors of UPC.
31(a)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz.
31(b)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 –Jennifer L. Hamann.
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz and Jennifer L. Hamann.
101	The following financial and related information from Union Pacific Corporation's Annual Report on Form 10-K for the year ended December 31, 2020 (filed with the SEC on February 5, 2021), formatted in Inline Extensible Business Reporting Language (iXBRL) includes (i) Consolidated Statements of Income for the years ended December 31, 2020, 2019 and 2018, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2020, 2019, and 2018, (iii) Consolidated Statements of Financial Position at December 31, 2020 and 2019, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019 and 2018, (v) Consolidated Statements of Changes in Common Shareholders' Equity for the years ended December 31, 2020, 2019 and 2018, and (vi) the Notes to the Consolidated Financial Statements.
104	Cover Page Interactive Data File, formatted in Inline XBRL (contained in Exhibit 101).
Incorporated by Reference	
3(a)	Restated Articles of Incorporation of UPC, as amended and restated through June 27, 2011, and as further amended May 15, 2014, are incorporated herein by reference to Exhibit 3(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.
3(b)	By-Laws of UPC, as amended, effective November 19, 2015, are incorporated herein by reference to Exhibit 3.2 to the Corporation's Current Report on Form 8-K dated November 19, 2015.

4(a)	Description of securities registered under Section 12 of the Exchange Act is incorporated herein by reference to Exhibit 4(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
4(b)	Indenture, dated as of December 20, 1996, between UPC and Wells Fargo Bank, National Association, as successor to Citibank, N.A., as Trustee, is incorporated herein by reference to Exhibit 4.1 to UPC's Registration Statement on Form S-3 (No. 333-18345).
4(c)	Indenture, dated as of April 1, 1999, between UPC and The Bank of New York, as successor to JP Morgan Chase Bank, formerly The Chase Manhattan Bank, as Trustee, is incorporated herein by reference to Exhibit 4.2 to UPC's Registration Statement on Form S-3 (No. 333-75989).
4(d)	Form of 2.150% Note due 2027 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated January 31, 2020.
4(e)	Form of 2.400% Note due 2030 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated January 31, 2020.
4(f)	Form of 3.250% Note due 2050 is incorporated by reference to Exhibit 4.3 to the Corporation's Current Report on Form 8-K dated January 31, 2020.
4(g)	Form of 3.750% Note due 2070 is incorporated by reference to Exhibit 4.4 to the Corporation's Current Report on Form 8-K dated January 31, 2020.
4(h)	Form of 3.250% Note due 2050 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated April 7, 2020.
	Certain instruments evidencing long-term indebtedness of UPC are not filed as exhibits because the total amount of securities authorized under any single such instrument does not exceed 10% of the Corporation's total consolidated assets. UPC agrees to furnish the Commission with a copy of any such instrument upon request by the Commission.
10(e)†	Supplemental Thrift Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(f)†	Supplemental Thrift Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended January 1, 2018, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.
10(g)†	Supplemental Pension Plan for Officers and Managers (409A Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended February 1, 2013, and March 1, 2013 is incorporated herein by reference to Exhibit 10(f) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(h)†	Union Pacific Corporation Key Employee Continuity Plan, as amended February 6, 2014, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(i)†	Deferred Compensation Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(b) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.

10(j)†	Union Pacific Corporation 2000 Directors Plan, effective as of April 21, 2000, as amended November 16, 2006, January 30, 2007 and January 1, 2009 is incorporated herein by reference to Exhibit 10(j) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(k)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Non-Grandfathered Component), effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(k) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(l)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Grandfathered Component), as amended and restated in its entirety, effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(l) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(m)†	UPC 2004 Stock Incentive Plan amended March 1, 2013, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(n)†	Union Pacific Corporation Policy for Recoupment of Incentive Compensation, effective January 1, 2020 is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(o)†	Union Pacific Corporation 2013 Stock Incentive Plan, effective May 16, 2013, as amended effective as of January 1, 2020 is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(p)†	Union Pacific Corporation Executive Incentive Plan, effective May 5, 2005, amended and restated effective January 1, 2020 is incorporated herein by reference to Exhibit 10(e) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(q)	Amended and Restated Registration Rights Agreement, dated as of July 12, 1996, among UPC, UP Holding Company, Inc., Union Pacific Merger Co. and Southern Pacific Rail Corporation (SP) is incorporated herein by reference to Annex J to the Joint Proxy Statement/Prospectus included in Post-Effective Amendment No. 2 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(r)	Agreement, dated September 25, 1995, among UPC, UPRR, Missouri Pacific Railroad Company (MPRR), SP, Southern Pacific Transportation Company (SPT), The Denver & Rio Grande Western Railroad Company (D&RGW), St. Louis Southwestern Railway Company (SLSRC) and SPCSL Corp. (SPCSL), on the one hand, and Burlington Northern Railroad Company (BN) and The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), on the other hand, is incorporated by reference to Exhibit 10.11 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(s)	Supplemental Agreement, dated November 18, 1995, between UPC, UPRR, MPRR, SP, SPT, D&RGW, SLSRC and SPCSL, on the one hand, and BN and Santa Fe, on the other hand, is incorporated herein by reference to Exhibit 10.12 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(t)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(u)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.

10(v)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(w)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(x)†	Form of 2018 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.
10(y)†	Form of 2019 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2018.
10(z)†	Form of 2020 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019.
10(aa)†	Executive Incentive Plan (2005) – Deferred Compensation Program, dated December 21, 2005 is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2005.

† Indicates a management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 5th day of February, 2021.

UNION PACIFIC CORPORATION

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific
Corporation

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, on this 5th day of February, 2021, by the following persons on behalf of the registrant and in the capacities indicated.

PRINCIPAL EXECUTIVE OFFICER
AND DIRECTOR:

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific Corporation

PRINCIPAL FINANCIAL OFFICER:

By /s/ Jennifer L. Hamann
Jennifer L. Hamann
Executive Vice President and
Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

By /s/ Todd M. Rynaski
Todd M. Rynaski,
Vice President and Controller

DIRECTORS:

Andrew H. Card, Jr.*
William J. DeLaney*
David B. Dillon*
Deborah C. Hopkins*
Jane H. Lute*

Michael R. McCarthy*
Thomas F. McLarty III*
Bhavesh V. Patel*
Jose H. Villarreal*
Christopher J. Williams*

* By /s/ Craig V. Richardson
Craig V. Richardson, Attorney-in-fact

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

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2019

OR

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

For the transition period from __________ to ____________

Commission File Number 1-6075

UNION PACIFIC CORPORATION
(Exact name of registrant as specified in its charter)

Utah	**13-2626465**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1400 Douglas Street, Omaha, Nebraska
(Address of principal executive offices)

68179
(Zip Code)

(402) 544-5000
(Registrant's telephone number, including area code)

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

Title of each Class	Trading Symbol	Name of each exchange on which registered
Common Stock (Par Value $2.50 per share)	**UNP**	**New York Stock Exchange**

- Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
  ☑ Yes ☐ No
- Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
  ☐ Yes ☑ No
- Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
  ☑ Yes ☐ No
- Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
  ☑ Yes ☐ No
- Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☑	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 is a shell company (as defined in Rule 12b-2 of the Act).
  ☐ Yes ☑ No
- As of June 28, 2019, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was $119.0 billion.

The number of shares outstanding of the registrant’s Common Stock as of January 31, 2020 was 690,261,490.

Documents Incorporated by Reference – Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 14, 2020, are incorporated by reference into Part III of this report. The registrant's Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

UNION PACIFIC CORPORATION
TABLE OF CONTENTS

February 7, 2020

Fellow Shareholders:

Union Pacific exited 2019 as a much different, much better company than we started the year. The implementation of Unified Plan 2020 is transforming how we do business – making us more efficient and reliable for our customers. Change of this magnitude is difficult, but the men and women of Union Pacific met the challenge head on - driving us to new levels of profitability in a year that included historic flooding and a declining freight environment. We are pleased to report earnings per diluted share of $8.38, which is a 6 percent increase versus 2018, despite volume declines of 6 percent. Our operating ratio was a record 60.6 percent, 2.1 points better than last year's 62.7 percent.

The adoption of Unified Plan 2020 is a key part of Union Pacific's push to become the best freight railroad in North America. We think of this strategy as a flywheel that is driven by a **Proud and Engaged Workforce**. Our employees are at the core of everything we do and are critical to our long-term success.

Picture 5The first "cog" in the flywheel is to provide the **Safest and Most Reliable Freight Rail Products and Services**. Everything we do must be done safely and reliably. Unfortunately, our 2019 safety results were not good enough. Our reportable personal injury rate was 0.90, compared to 0.82 in 2018, while our reportable derailment rate was 4.28, compared to 3.28 in 2018. We want every employee to return home safely every day and to eliminate all derailments. We must do better in 2020.

We did, however, make great strides to improve the reliability of our service product. Trip plan compliance improved 6 points, demonstrating our commitment to be there when we say we will. Local service metrics like to and from industry, also showed solid improvement. Additionally, increased asset utilization and fewer car classifications led to a 6 percent improvement in freight car velocity and a 17 percent improvement in freight car terminal dwell.

In order to be cost competitive for our customers in a quickly changing freight environment, we must have **Highly Efficient Operations**. This includes emphasizing on-time performance and turning assets more quickly, driving costs out of our network so we can better compete in both new and existing markets. I am very pleased to report that the team did an excellent job across the board in this area as we drove our operating ratio to record levels.

Combining an enhanced service product with advancing technology allows us to provide an **Industry-Leading Customer Experience**. One example is the transparency we are providing customers into their supply chain. Use of Mobile Work Order devices has allowed us to provide streamlined interfaces, better notifications and improved local inventory reporting. And we're just getting started!

Efficient operations and an excellent customer experience are the foundation that enables us to **Secure Appropriate Business**. Despite a difficult freight environment where freight volumes decreased 6 percent compared to 2018, we continue to win new business. We're excited to participate in the development of the new Butler Intermodal Terminal in Central Iowa, providing an alternative to larger Midwest rail hubs and giving shippers a cost-competitive solution to reduce long-haul trucking miles.

A safe, reliable and efficient service product positions us to generate **Best-in-Industry Cash Returns**. Total shareholder return, including price appreciation and dividends, increased 33.7 percent in 2019, compared to 31.5 percent for the S&P 500. We paid dividends in 2019 of $2.6 billion, as we raised our quarterly dividend with two 10 percent increases during the year. In addition, we repurchased 35 million Union Pacific shares, decreasing our full-year average share count by 6 percent. Combining dividends and share repurchases, Union Pacific returned $8.4 billion to our shareholders in 2019.

Capital investments in our business form the foundation for future improvements in safety, reliability and efficiency, making it critical that we make **Optimal Investments** annually. In 2019, we invested $3.2 billion, including just under $2 billion in replacement capital to harden our infrastructure, replace older assets and improve the safety and resiliency of our network. We also invested for growth and productivity through the addition of five extended sidings on our Sunset Corridor, a key competitive route for us.

As we enter the new decade, we are looking forward to leveraging the Unified Plan 2020 service gains to safely and reliably grow the business. We understand that opportunity comes with responsibility; we will continue to be a positive force in sustainability efforts, ensuring all stakeholders are heard. Our goal and our path are clear: Be the best freight railroad in North America, and use that platform to grow with our customers. Thank you for joining us on this value-creating journey.

Picture 4

Chairman, President and Chief Executive Officer

DIRECTORS AND SENIOR MANAGEMENT

BOARD OF DIRECTORS

Andrew H. Card, Jr.
Former White House
Chief of Staff
Board Committees: Audit, Compensation and Benefits

Erroll B. Davis, Jr.
Former Chairman,
President & CEO
Alliant Energy Corporation
Board Committees: Compensation and Benefits (Chair), Corporate Governance and Nominating

William J. DeLaney
Former Chief Executive Officer,
Sysco Corporation
Board Committees: Audit, Compensation and Benefits

David B. Dillon
Former Chairman
The Kroger Company
Board Committees: Audit (Chair), Compensation and Benefits

Lance M. Fritz
Chairman, President and
Chief Executive Officer
Union Pacific Corporation and
Union Pacific Railroad Company

Deborah C. Hopkins
Former Chief Executive Officer
Citi Ventures
Former Chief Innovation Officer
Citi
Board Committees: Audit, Finance

Jane H. Lute
President and Chief Executive Officer
SICPA North America
Board Committees: Audit, Corporate Governance and Nominating

Michael R. McCarthy
Chairman
McCarthy Group, LLC
Lead Independent Director
Board Committees: Corporate Governance and Nominating (Chair), Finance

Thomas F. McLarty III
President
McLarty Associates
Board Committees: Finance (Chair), Corporate Governance and Nominating

Bhavesh V. Patel
Chief Executive Officer and
Chairman of the Management Board
LyondellBasell Industries N.V.
Board Committees: Finance, Compensation and Benefits

Jose H. Villarreal
Advisor
Akin, Gump, Strauss, Hauer &
Feld, LLP
Board Committees: Compensation and Benefits, Corporate Governance and Nominating

Christopher J. Williams
Chairman
Siebert Williams Shank & Co.
*Board Committees: Audit, Finance**

SENIOR MANAGEMENT**

Lance M. Fritz
Chairman, President and
Chief Executive Officer

Prentiss W. Bolin, Jr.
Vice President-External Relations

Bryan L. Clark
Vice President-Tax

Rhonda S. Ferguson
Executive Vice President, Chief Legal
Officer and Corporate Secretary

Gary W. Grosz
Vice President and Treasurer

Jennifer L. Hamann
Executive Vice President
and Chief Financial Officer

Thomas A. Lischer
Executive Vice President-Operations

Scott D. Moore
Senior Vice President-Corporate
Relations and
Chief Administrative Officer

Jon T. Panzer
Senior Vice President-Technology
and Strategic Planning

Clark J. Ponthier
Senior Vice President-Supply Chain
And Continuous Improvement

Kenny G. Rocker
Executive Vice President-Marketing
and Sales

Todd M. Rynaski
Vice President and Controller

V. James Vena
Chief Operating Officer

Elizabeth F. Whited
Executive Vice President and
Chief Human Resource Officer

*Committee appointments effective March 18, 2020.

**Senior management are elected officers of both Union Pacific Corporation and Union Pacific Railroad Company, except Messrs. Lischer, Ponthier and Rocker are elected officers for Union Pacific Railroad Company.

PART I

Item 1. Business

GENERAL

Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation. One of America's most recognized companies, Union Pacific Railroad Company links 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain. The Railroad’s diversified business mix includes Agricultural Products, Energy, Industrial and Premium. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient and environmentally responsible manner.

Union Pacific Corporation was incorporated in Utah in 1969 and maintains its principal executive offices at 1400 Douglas Street, Omaha, NE 68179. The telephone number at that address is (402) 544-5000. The common stock of Union Pacific Corporation is listed on the New York Stock Exchange (NYSE) under the symbol “UNP”.

For purposes of this report, unless the context otherwise requires, all references herein to “UPC”, “Corporation”, “Company”, “we”, “us”, and “our” shall mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which we separately refer to as “UPRR” or the “Railroad”.

Available Information – Our Internet website is www.up.com. We make available free of charge on our website (under the “Investors” caption link) our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; our current reports on Form 8-K; our proxy statements; Forms 3, 4, and 5, filed on behalf of our directors and certain executive officers; and amendments to such reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act). We provide these reports and statements as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). We also make available on our website previously filed SEC reports and exhibits via a link to EDGAR on the SEC’s Internet site at www.sec.gov. Additionally, our corporate governance materials, including By-Laws, Board Committee charters, governance guidelines and policies, and codes of conduct and ethics for directors, officers, and employees are available on our website. From time to time, the corporate governance materials on our website may be updated as necessary to comply with rules issued by the SEC and the NYSE or as desirable to promote the effective and efficient governance of our Company. Any security holder wishing to receive, without charge, a copy of any of our SEC filings or corporate governance materials should send a written request to: Secretary, Union Pacific Corporation, 1400 Douglas Street, Omaha, NE 68179.

References to our website address in this report, including references in Management’s Discussion and Analysis of Financial Condition and Results of Operations, Item 7, are provided as a convenience and do not constitute, and should not be deemed, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

OPERATIONS

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide revenue by commodity group, we analyze the net financial results of the Railroad as one segment due to the integrated nature of our rail network. Additional information regarding our business and operations, including revenue and financial information and data and other information regarding environmental matters, is presented in Risk Factors, Item 1A; Legal Proceedings, Item 3; Selected Financial Data, Item 6; Management’s Discussion and Analysis of Financial Condition and Results of Operations, Item 7; and the Financial Statements and Supplementary Data, Item 8 (which include information regarding revenues, statements of income, and total assets).

Operations – UPRR is a Class I railroad operating in the U.S. We have 32,340 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and eastern U.S. gateways and providing several corridors to key Mexican gateways. We serve the Western two-thirds of the country and maintain coordinated schedules with other rail carriers to move freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic moves through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. Our freight traffic consists of bulk, manifest, and premium business. Bulk traffic primarily consists of coal, grain, soda ash, ethanol, and rock shipped in unit trains – trains transporting a single commodity from one origin to one destination. Manifest traffic includes individual carload or less than train-load business involving commodities such as lumber, steel, paper, food and chemicals. The transportation of finished vehicles, auto parts, intermodal containers and truck trailers are included as part of our premium business. In 2019, we generated freight revenues totaling $20.2 billion from the following four commodity groups:

2019 Freight Revenue
Picture 1

Agricultural Products – Transportation of grains, commodities produced from these grains, fertilizer, and food and beverage products generated 22% of the Railroad's 2019 freight revenue. We access most major grain markets, linking the Midwest and Western U.S. producing areas to export terminals in the Pacific Northwest and Gulf Coast ports, as well as Mexico. We also serve significant domestic markets, including grain processors, animal feeders and ethanol producers in the Midwest and West. Fertilizer movements originate in the Gulf Coast region, Midwest, western U.S. and Canada (through interline access) for delivery to major agricultural users in those areas, as well as abroad.

Energy – The Company's Energy shipments are grouped into the following three categories: (i) coal, (ii) sand and (iii) petroleum, liquid petroleum gases (LPG) and renewables. In 2019, this group generated 18% of our freight revenue. The Railroad's network supports the transportation of coal shipments to independent and regulated power companies and industrial facilities throughout the U.S. Through interchange gateways and ports, UPRR's reach extends to eastern U.S. utilities, as well as to Mexico and other international destinations. Coal traffic originating in the Powder River Basin (PRB) area of Wyoming is the largest segment of the Railroad's coal business. Demand for hydraulic fracturing sand, or frac-sand, is generated by oil and gas drilling, whereas, the Company's petroleum and LPG shipments are primarily impacted by refinery utilization rates, regional crude pricing differentials, pipeline capacity, and the use of asphalt for road programs. Renewable shipments consist primarily of biomass exports and wind turbine components.

Industrial – Our extensive network facilitates the movement of numerous commodities between thousands of origin and destination points throughout North America. The Industrial group consists of several categories, including construction, industrial chemicals, plastics, forest products, specialized products (primarily waste, lime, salt and government), metals and ores, and soda ash. Transportation of these products accounted for 29% of our freight revenue in 2019. Commercial, residential and governmental infrastructure investments drive shipments of steel, aggregates, cement and wood products. Industrial and light manufacturing plants receive steel, nonferrous materials, minerals and other raw materials.

The industrial chemicals market consists of a vast number of chemical compounds that support the manufacturing of more complex chemicals. Plastics shipments support automotive, housing, and the durable and disposable consumer goods markets. Forest product shipments include lumber and paper commodities. Lumber shipments originate primarily in the Pacific Northwest or western Canada and move throughout the U.S. for use in new home construction and repairs and remodeling. Paper shipments primarily support packaging needs. Oil and gas drilling generates demand for raw steel, finished pipe, stone and drilling fluid commodities. Soda ash originates in southwestern Wyoming and California, destined for chemical and glass producing markets in North America and abroad.

Premium – In 2019, the Premium franchise generated 31% of Union Pacific's total freight revenue. Our Premium franchise includes three segments: international intermodal, domestic intermodal, and finished vehicles. International business consists of import and export traffic moving in 20 or 40-foot shipping containers, that mainly passes through West Coast ports served by UP's extensive terminal network. Domestic business includes container and trailer traffic picked up and delivered within North America for intermodal marketing companies (primarily shipper agents and logistics companies), as well as truckload carriers.

We are the largest automotive carrier west of the Mississippi River and operate or access 38 vehicle distribution centers. The Railroad's extensive franchise serves five vehicle assembly plants and connects to West Coast ports, all six major Mexico gateways, and the Port of Houston to accommodate both import and export shipments. In addition to transporting finished vehicles, UPRR provides expedited handling of automotive parts in both boxcars and intermodal containers destined for Mexico, the U.S. and Canada.

Seasonality – Some of the commodities we carry have peak shipping seasons, reflecting either or both the nature of the commodity and the demand cycle for the commodity (such as certain agricultural and food products that have specific growing and harvesting seasons). The peak shipping seasons for these commodities can vary considerably each year depending upon various factors, including the strength of domestic and international economies and currencies and the strength of harvests and market prices for agricultural products.

Working Capital – At both December 31, 2019 and December 31, 2018, we had a working capital deficit. The deficits are primarily due to upcoming debt maturities. As past years indicate, it is not unusual for us to have a working capital deficit; however, we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility, and when necessary, access to capital markets to meet any foreseeable cash requirements.

Competition – We are subject to competition from other railroads, motor carriers, ship and barge operators, and pipelines. Our main railroad competitor is Burlington Northern Santa Fe LLC. Its primary subsidiary, BNSF Railway Company (BNSF), operates parallel routes in many of our main traffic corridors. In addition, we operate in corridors served by other railroads and motor carriers. Motor carrier competition exists for all four of our commodity groups (excluding most coal shipments). Because of the proximity of our routes to major inland and Gulf Coast waterways, barges can be particularly competitive, especially for grain and bulk commodities in certain areas where we operate. In addition to price competition, we also face competition with respect to transit times, quality and reliability of service from motor carriers and other railroads. Motor carriers in particular can have an advantage over railroads with respect to transit times and timeliness of service. However, railroads are much more fuel-efficient than trucks, which reduces the impact of transporting goods on the environment and public infrastructure, and we have been making efforts to convert certain truck traffic to rail. Additionally, we must build or acquire and maintain our rail system; trucks and barges are able to use public rights-of-way maintained by public entities. Any of the following could also affect the competitiveness of our transportation services for some or all of our commodities: (i) improvements or expenditures materially increasing the quality or reducing the costs of these alternative modes of transportation, (ii) legislation that eliminates or significantly increases the size or weight limitations applied to motor carriers, or (iii) legislation or regulatory changes that impose operating restrictions on railroads or that adversely affect the profitability of some or all railroad traffic. Finally, many movements face product or geographic competition where our customers can use different products (e.g. natural gas instead of coal, sorghum instead of corn) or commodities from different locations (e.g. grain from states or countries that we do not serve, crude oil from different regions). Sourcing different commodities or different locations allows shippers to substitute different carriers and such competition may reduce our volume or constrain prices. For more information regarding risks we face from competition, see the Risk Factors in Item 1A of this report.

Key Suppliers – We depend on two key domestic suppliers of high horsepower locomotives. Due to the capital intensive nature of the locomotive manufacturing business and sophistication of this equipment, potential new suppliers face high barriers of entry into this industry. Therefore, if one of these domestic suppliers discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including insolvency or bankruptcy, we could experience a significant cost increase and risk reduced availability of the locomotives that are necessary to our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical for maintenance, replacement, improvement, and expansion of our network and facilities. Rail manufacturing also has high barriers of entry, and, if one of those suppliers

discontinues operations for any reason, including insolvency or bankruptcy, we could experience cost increases and difficulty obtaining rail.

Employees – Approximately 85% of our full-time employees are represented by 14 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The current round of negotiations began on January 1, 2020 related to years 2020-2024. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare.

Railroad Security – Our security efforts consist of a wide variety of measures including employee training, engagement with our customers, training of emergency responders, and partnerships with numerous federal, state, and local government agencies. While federal law requires us to protect the confidentiality of our security plans designed to safeguard against terrorism and other security incidents, the following provides a general overview of our security initiatives.

UPRR Security Measures – We maintain a comprehensive security plan designed to both deter and respond to any potential or actual threats as they arise. The plan includes four levels of alert status, each with its own set of countermeasures. We employ our own police force, consisting of commissioned and highly-trained officers. Our employees also undergo recurrent security and preparedness training, as well as federally-mandated hazardous materials and security training. We regularly review the sufficiency of our employee training programs. We maintain the capability to move critical operations to back-up facilities in different locations.

We operate an emergency response management center 24 hours a day. The center receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, law enforcement and other government officials. In cooperation with government officials, we monitor both threats and public events, and, as necessary, we may alter rail traffic flow at times of concern to minimize risk to communities and our operations. We comply with the hazardous materials routing rules and other requirements imposed by federal law. We also design our operating plan to expedite the movement of hazardous material shipments to minimize the time rail cars remain idle at yards and terminals located in or near major population centers. Additionally, in compliance with Transportation Security Agency regulations, we deployed information systems and instructed employees in tracking and documenting the handoff of Rail Security Sensitive Materials with customers and interchange partners.

We also have established a number of our own innovative safety and security-oriented initiatives ranging from various investments in technology to The Officer on Train program, which provides local law enforcement officers with the opportunity to ride with train crews to enhance their understanding of railroad operations and risks. Our staff of information security professionals continually assesses cyber security risks and implements mitigation programs that evolve with the changing technology threat environment. To date, we have not experienced any material disruption of our operations due to a cyber threat or attack directed at us.

Cooperation with Federal, State, and Local Government Agencies – We work closely on physical and cyber security initiatives with government agencies, including the U.S. Department of Transportation (DOT) and the Department of Homeland Security (DHS) as well as local police departments, fire departments, and other first responders. In conjunction with the Association of American Railroads (AAR), we sponsor Ask Rail, a mobile application which provides first responders with secure links to electronic information, including commodity and emergency response information required by emergency personnel to respond to accidents and other situations. We also participate in the National Joint Terrorism Task Force, a multi-agency effort established by the U.S. Department of Justice and the Federal Bureau of Investigation to combat and prevent terrorism.

We work with the Coast Guard, U.S. Customs and Border Protection (CBP), and the Military Transport Management Command, which monitor shipments entering the UPRR rail network at U.S. border crossings and ports. We were the first railroad in the U.S. to be named a partner in CBP's Customs-Trade Partnership Against Terrorism, a partnership designed to develop, enhance, and maintain effective security processes throughout the global supply chain.

Cooperation with Customers and Trade Associations – Through TransCAER (Transportation Community Awareness and Emergency Response) we work with the AAR, the American Chemistry Council, the American Petroleum Institute, and other chemical trade groups to provide communities with preparedness tools, including the training of emergency responders. In cooperation with the Federal Railroad Administration (FRA) and other interested groups, we are also working to develop additional improvements to tank car design that will further limit the risk of releases of hazardous materials.

GOVERNMENTAL AND ENVIRONMENTAL REGULATION

Governmental Regulation – Our operations are subject to a variety of federal, state, and local regulations, generally applicable to all businesses. (See also the discussion of certain regulatory proceedings in Legal Proceedings, Item 3.)

The operations of the Railroad are also subject to the regulatory jurisdiction of the Surface Transportation Board (STB). The STB has jurisdiction over rates charged on certain regulated rail traffic; common carrier service of regulated traffic; freight car compensation; transfer, extension, or abandonment of rail lines; and acquisition of control of rail common carriers. The STB continues its efforts to explore expanding rail regulation and is reviewing proposed rulemaking in various areas, including reciprocal switching, commodity exemptions, and expanding and easing procedures for smaller rate complaints. The STB also continues to develop a methodology for determining railroad revenue adequacy and the possible use of a revenue adequacy constraint in regulating railroad rates. The STB posts quarterly reports on rate reasonableness cases and maintains a database on service complaints, and has the authority to initiate investigations, among other things.

The operations of the Railroad also are subject to the regulations of the FRA and other federal and state agencies. In 2010, the FRA issued initial rules governing installation of Positive Train Control (PTC). PTC is a collision avoidance technology intended to override engineer controlled locomotives and stop train-to-train and overspeed accidents, misaligned switch derailments, and unauthorized entry to work zones. The Surface Transportation Extension Act of 2015 amended the Rail Safety Improvement Act to require implementation of PTC by the end of 2018, which deadline may be extended to December 31, 2020, provided certain other criteria are satisfied. On December 10, 2018, we received FRA approval for an alternative schedule to implement, test and refine our PTC during 2019-2020. As of December 31, 2019, PTC has been implemented and installed on 100 percent of our required rail lines, including required passenger train routes and interoperability efforts with other railroads will continue through 2020. Through 2019, we have invested approximately $2.9 billion in the ongoing development of PTC. Final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours.

DOT, the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and DHS, along with other federal agencies, have jurisdiction over certain aspects of safety, movement of hazardous materials and hazardous waste, emissions requirements, and equipment standards. Additionally, various state and local agencies have jurisdiction over disposal of hazardous waste and seek to regulate movement of hazardous materials in ways not preempted by federal law.

Environmental Regulation – We are subject to extensive federal and state environmental statutes and regulations pertaining to public health and the environment. The statutes and regulations are administered and monitored by the Environmental Protection Agency (EPA) and by various state environmental agencies. The primary laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating waste water discharges.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7 and Note 18 to the Consolidated Financial Statements in Item 8, Financial Statements and Supplementary Data.

Item 1A. Risk Factors

The following discussion addresses significant factors, events and uncertainties that make an investment in our securities risky and provides important information for the understanding of our "forward-looking statements," which are discussed immediately preceding Item 7A of this Form 10-K and elsewhere. The risk factors set forth in this Item 1A should be read in conjunction with the rest of the information included in this report, including Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and Financial Statements and Supplementary Data, Item 8.

We urge you to consider carefully the factors described below and the risks that they present for our operations, as well as the risks addressed in other reports and materials that we file with the SEC and the other information included or incorporated by reference in this Form 10-K. When the factors, events and contingencies described below or elsewhere in this Form 10-K materialize, our business, reputation, financial condition, results of operations, cash flows or prospects can be materially adversely affected. In such case, the trading price of our common stock could decline and you could lose part or all of you investment. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may also materially adversely affect our business, reputation, financial condition, results of operations, cash flows and prospects.

We Must Manage Fluctuating Demand for Our Services and Network Capacity – If there are significant reductions in demand for rail services with respect to one or more commodities or changes in consumer preferences that affect the businesses of our customers, we may experience increased costs associated with resizing our operations, including higher unit operating costs and costs for the storage of locomotives, rail cars, and other equipment; work-force adjustments; and other related activities, which could have a material adverse effect on our results of operations, financial condition, and liquidity. If there is significant demand for our services that exceeds the designed capacity of our network, we may experience network difficulties, including congestion and reduced velocity, that could compromise the level of service we provide to our customers. This level of demand may also compound the impact of weather and weather-related events on our operations and velocity. Although we continue to improve our transportation plan, add capacity, improve operations at our yards and other facilities, and improve our ability to address surges in demand for any reason with adequate resources, we cannot be sure that these measures will fully or adequately address any service shortcomings resulting from demand exceeding our planned capacity. We may experience other operational or service difficulties related to network capacity, dramatic and unplanned fluctuations in our customers' demand for rail service with respect to one or more commodities or operating regions, or other events that could negatively impact our operational efficiency, any of which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Transport Hazardous Materials – We transport certain hazardous materials and other materials, including crude oil, ethanol, and toxic inhalation hazard (TIH) materials, such as chlorine, that pose certain risks in the event of a release or combustion. Additionally, U.S. laws impose common carrier obligations on railroads that require us to transport certain hazardous materials regardless of risk or potential exposure to loss. A rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release or combustion of hazardous materials could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation in excess of our insurance coverage for these risks, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Governmental Regulation – We are subject to governmental regulation by a significant number of federal, state, and local authorities covering a variety of health, safety, labor, environmental, economic (as discussed below), and other matters. Many laws and regulations require us to obtain and maintain various licenses, permits, and other authorizations, and we cannot guarantee that we will continue to be able to do so. Our failure to comply with applicable laws and regulations could have a material adverse effect on us. Governments or regulators may change the legislative or regulatory frameworks within which we operate without providing us any recourse to address any adverse effects on our business, including, without limitation, regulatory determinations or rules regarding dispute resolution, increasing the amount of our traffic subject to common carrier regulation, business relationships with other railroads, calculation of our cost of capital or other inputs relevant to computing our revenue adequacy, the prices we charge, and costs and expenses. Significant legislative activity in Congress or regulatory activity by the STB could expand regulation of railroad operations and prices for rail services, which could reduce capital spending on our rail network, facilities and equipment and have a material adverse effect on our results of operations, financial condition, and liquidity. For example, enacted federal legislation mandated the implementation of PTC by December 31, 2020. Although we have completed implementation on all

required rail lines, final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours. This implementation could have a material adverse effect on our results of operations and financial condition. Additionally, one or more consolidations of Class I railroads could also lead to increased regulation of the rail industry.

We Are Affected by General Economic Conditions – Prolonged severe adverse domestic and global economic conditions or disruptions of financial and credit markets may affect the producers and consumers of the commodities we carry and may have a material adverse effect on our access to liquidity and our results of operations and financial condition.

We Face Competition from Other Railroads and Other Transportation Providers – We face competition from other railroads, motor carriers, ships, barges, and pipelines. In addition to price competition, we face competition with respect to transit times and quality and reliability of service. We must build or acquire and maintain our rail system, while trucks, barges and maritime operators are able to use public rights-of-way maintained by public entities. Any future improvements or expenditures materially increasing the quality or reducing the cost of alternative modes of transportation, or legislation that eliminates or significantly increases the size or weight limitations currently applicable to motor carriers, could have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, any future consolidation of the rail industry could materially affect the competitive environment in which we operate.

We Rely on Technology and Technology Improvements in Our Business Operations – We rely on information technology in all aspects of our business, including technology systems operated by us or under control of third parties. If we do not have sufficient capital to acquire new technology or if we are unable to develop or implement new technology such as PTC or the latest version of our transportation control systems, we may suffer a competitive disadvantage within the rail industry and with companies providing other modes of transportation service, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Cybersecurity Risks – We rely on information technology in all aspects of our business, including technology systems operated by us or under control of third parties. Although we devote significant resources to protect our technology systems and proprietary data, we have experienced and will continue to experience varying degrees of cyber incidents in the normal course of business. While there can be no assurance that the systems we have designed to prevent or limit the effects of cyber incidents or attacks will be sufficient to prevent or detect such incidents or attacks, or to avoid a material adverse impact on our systems after such incidents or attacks do occur, we are continually evaluating attackers' techniques and tactics and we are diligent in our monitoring, training, planning and prevention. However, breach or circumvention of our systems or the systems of third parties, including by ransomware, other cyber attacks, or human error may result in significant service interruption, safety failure, other operational difficulties, unauthorized access to (or the loss of access to) competitively sensitive, confidential or other critical data or systems; loss of customers; financial losses; regulatory fines; and misuse or corruption of critical data and proprietary information, any of which could have a material adverse impact on our results of operations, financial condition, and liquidity.

We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures – As a railroad with operations in densely populated urban areas and other cities and a vast rail network, we are exposed to the potential for various claims and litigation related to labor and employment, personal injury, property damage, environmental liability, and other matters. Any material changes to litigation trends or a catastrophic rail accident or series of accidents involving any or all of property damage, personal injury, and environmental liability that exceed our insurance coverage for such risks could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Environmental Laws and Regulations – Due to the nature of the railroad business, our operations are subject to extensive federal, state, and local environmental laws and regulations concerning, among other things, emissions to the air; discharges to waters; handling, storage, transportation, disposal of waste and other materials; and hazardous material or petroleum releases. We generate and transport hazardous and non-hazardous waste in our operations, and we did so in our former operations. Environmental liability can extend to previously owned or operated properties, leased properties, and properties owned by third parties, as well as to properties we currently own. Environmental liabilities have arisen and may also arise from claims asserted by adjacent landowners or other third parties in toxic tort litigation. We have been and may be subject to allegations or findings that we have violated, or are strictly liable under, these laws or regulations. We currently have certain obligations at existing sites for investigation, remediation and monitoring, and we likely will have obligations at other sites in the future.

Liabilities for these obligations affect our estimate based on our experience and, as necessary, the advice and assistance of our consultants. However, actual costs may vary from our estimates due to any or all of several factors, including changes to environmental laws or interpretations of such laws, technological changes affecting investigations and remediation, the participation and financial viability of other parties responsible for any such liability and the corrective action or change to corrective actions required to remediate any existing or future sites. We could incur significant costs as a result of any of the foregoing, and we may be required to incur significant expenses to investigate and remediate known, unknown, or future environmental contamination, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Affected by Climate Change and Market or Regulatory Responses to Climate Change – Climate change, including the impact of global warming, could have a material adverse effect on our results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of greenhouse gasses, including diesel exhaust, could significantly increase our operating costs. Restrictions on emissions could also affect our customers that (a) use commodities that we carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities we carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers and food producers, and automakers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy or emissions reductions could materially affect the markets for the commodities we carry, which in turn could have a material adverse effect on our results of operations, financial condition, and liquidity. Government incentives encouraging the use of alternative sources of energy could also affect certain of our customers and the markets for certain of the commodities we carry in an unpredictable manner that could alter our traffic patterns, including, for example, increasing royalties charged to producers of PRB coal by the U.S. Department of Interior and the impacts of ethanol incentives on farming and ethanol producers. Finally, we could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change. Any of these factors, individually or in operation with one or more of the other factors, or other unforeseen impacts of climate change could reduce the amount of traffic we handle and have a material adverse effect on our results of operations, financial condition, and liquidity.

Severe Weather Could Result in Significant Business Interruptions and Expenditures – As a railroad with a vast network, we are exposed to severe weather conditions and other natural phenomena, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures, and significant precipitation. Line outages and other interruptions caused by these conditions can adversely affect our entire rail network and can adversely affect revenue, costs, and liabilities, which could have a material adverse effect on our results of operations, financial condition, and liquidity despite efforts we undertake to plan for these events.

Strikes or Work Stoppages Could Adversely Affect Our Operations – The U.S. Class I railroads are party to collective bargaining agreements with various labor unions. The majority of our employees belong to labor unions and are subject to these agreements. Disputes with regard to the terms of these agreements or our potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns, or lockouts, which could cause a significant disruption of our operations and have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could compromise our service reliability or significantly increase our costs for health care, wages, and other benefits, which could have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts at loading/unloading facilities, ports or other transport access points could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts by employees of our customers or our suppliers could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity.

The Availability of Qualified Personnel Could Adversely Affect Our Operations – Changes in demographics, training requirements, and the availability of qualified personnel could negatively affect our ability to meet demand for rail service. Unpredictable increases in demand for rail services and a lack of network fluidity may exacerbate such risks, which could have a negative impact on our operational efficiency and otherwise have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Affected By Fluctuating Fuel Prices – Fuel costs constitute a significant portion of our transportation expenses. Diesel fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on our operating results. Although we currently are able to recover a significant amount of our fuel expenses from our customers through revenue from fuel surcharges, we cannot be certain that we will always be able to mitigate rising or elevated fuel costs through our fuel surcharges. Additionally, future market conditions or legislative or regulatory activities could adversely affect our ability to apply fuel surcharges or adequately recover increased fuel costs through fuel surcharges. As fuel prices fluctuate, our fuel surcharge programs trail such fluctuations in fuel price by approximately two months, and may be a significant source of quarter-over-quarter and year-over-year volatility, particularly in periods of rapidly changing prices. International, political, and economic factors, events and conditions affect the volatility of fuel prices and supplies. Weather can also affect fuel supplies and limit domestic refining capacity. A severe shortage of, or disruption to, domestic fuel supplies could have a material adverse effect on our results of operations, financial condition, and liquidity. Alternatively, lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products we transport. However, lower fuel prices could have a negative impact on other commodities we transport, such as coal and domestic drilling-related shipments, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Rely on Capital Markets – Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, we rely on the capital markets to provide some of our capital requirements. We utilize long-term debt instruments, bank financing and commercial paper from time-to-time, and we pledge certain of our receivables. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial condition due to internal or external factors could restrict or prohibit our access to, and significantly increase the cost of, commercial paper and other financing sources, including bank credit facilities and the issuance of long-term debt, including corporate bonds. A significant deterioration of our financial condition could result in a reduction of our credit rating to below investment grade, which could restrict, or at certain credit levels below investment grade may prohibit us, from utilizing our current receivables securitization facility. This may also limit our access to external sources of capital and significantly increase the costs of short and long-term debt financing.

A Significant Portion of Our Revenue Involves Transportation of Commodities to and from International Markets – Although revenues from our operations are attributable to transportation services provided in the U.S., a significant portion of our revenues involves the transportation of commodities to and from international markets, including Mexico and Southeast Asia, by various carriers and, at times, various modes of transportation. Significant and sustained interruptions of trade with Mexico or countries in Southeast Asia, including China, could adversely affect customers and other entities that, directly or indirectly, purchase or rely on rail transportation services in the U.S. as part of their operations, and any such interruptions could have a material adverse effect on our results of operations, financial condition and liquidity. Any one or more of the following could cause a significant and sustained interruption of trade with Mexico or countries in Southeast Asia: (a) a deterioration of security for international trade and businesses; (b) the adverse impact of new laws, rules and regulations or the interpretation of laws, rules and regulations by government entities, courts or regulatory bodies, including replacing the North American Free Trade Agreement (NAFTA) with the ratification of the United States-Mexico-Canada Agreement (USMCA) and a “Phase One” trade agreement with China; (c) actions of taxing authorities that affect our customers doing business in foreign countries; (d) any significant adverse economic developments, such as extended periods of high inflation, material disruptions in the banking sector or in the capital markets of these foreign countries, and significant changes in the valuation of the currencies of these foreign countries that could materially affect the cost or value of imports or exports; (e) shifts in patterns of international trade that adversely affect import and export markets; (f) a material reduction in foreign direct investment in these countries; and (g) public health crises, including the outbreak of pandemic or contagious disease, such as the novel coronavirus.

We Are Subject to Legislative, Regulatory, and Legal Developments Involving Taxes – Taxes are a significant part of our expenses. We are subject to U.S. federal, state, and foreign income, payroll, property, sales and use, fuel, and other types of taxes. Changes in tax rates, such as those included in the Tax Cuts and Jobs Act, enactment of new tax laws, revisions of tax regulations, and claims or litigation with taxing authorities could result in a material effect to our results of operations, financial condition, and liquidity. Higher tax rates could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Dependent on Certain Key Suppliers of Locomotives and Rail – Due to the capital intensive nature and sophistication of locomotive equipment, parts and maintenance, potential new suppliers face high barriers to entry. Therefore, if one of the domestic suppliers of high horsepower locomotives discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including bankruptcy or insolvency, we could experience significant cost increases and reduced availability of the locomotives that are necessary for our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical to our operations for rail replacement programs, maintenance, and for adding additional network capacity, new rail and storage yards, and expansions of existing facilities. This industry similarly has high barriers to entry, and if one of these suppliers discontinues operations for any reason, including bankruptcy or insolvency, we could experience both significant cost increases for rail purchases and difficulty obtaining sufficient rail for maintenance and other projects. Changes to trade agreements or policies that result in increased tariffs on goods imported into the United States could also result in significant cost increases for rail purchases and difficulty obtaining sufficient rail.

We May Be Affected by Acts of Terrorism, War, or Risk of War – Our rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Terrorist attacks, or other similar events, any government response thereto, and war or risk of war may adversely affect our results of operations, financial condition, and liquidity. In addition, insurance premiums for some or all of our current coverages could increase dramatically, or certain coverages may not be available to us in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We employ a variety of assets in the management and operation of our rail business. Our rail network covers 23 states in the western two-thirds of the U.S.

Picture 5

TRACK

Our rail network includes 32,340 route miles. We own 26,094 miles and operate on the remainder pursuant to trackage rights or leases. The following table describes track miles at December 31, 2019, and 2018:

	2019	*2018*
Route	**32,340**	32,236
Other main line	**7,095**	7,074
Passing lines and turnouts	**3,301**	3,274
Switching and classification yard lines	**9,007**	8,970
Total miles	**51,743**	51,554

HEADQUARTERS BUILDING

We own our headquarters building in Omaha, Nebraska. The facility has 1.2 million square feet of space that can accommodate approximately 4,000 employees.

HARRIMAN DISPATCHING CENTER

The Harriman Dispatching Center (HDC), located in Omaha, Nebraska, is our primary dispatching facility. It is linked to regional dispatching and locomotive management facilities at various locations along our network. HDC employees coordinate moves of locomotives and trains, manage traffic and train crews on our network, and coordinate interchanges with other railroads. Approximately 900 employees currently work on-site in the facility. In the event of a disruption of operations at HDC due to a cyber attack, flooding or severe weather or other event, we maintain the capability to conduct critical operations at back-up facilities in different locations.

RAIL FACILITIES

In addition to our track structure, we operate numerous facilities, including terminals for intermodal and other freight; rail yards for building trains (classification yards), switching, storage-in-transit (the temporary storage of customer goods in rail cars prior to shipment) and other activities; offices to administer and manage our operations; dispatching centers to direct traffic on our rail network; crew on duty locations for train crews along our network; and shops and other facilities for fueling, maintenance, and repair of locomotives and repair and maintenance of rail cars and other equipment. The following table includes the major yards and terminals on our system:

Major Classification Yards	*Major Intermodal Terminals*
North Platte, Nebraska	Joliet (Global 4), Illinois
North Little Rock, Arkansas	ICTF (Los Angeles), California
Englewood (Houston), Texas	East Los Angeles, California
Fort Worth, Texas	DIT (Dallas), Texas
Livonia, Louisiana	Marion (Memphis), Tennessee
West Colton, California	Global II (Chicago), Illinois
Proviso (Chicago), Illinois	City of Industry, California
Roseville, California	Global I (Chicago), Illinois

RAIL EQUIPMENT

Our equipment includes owned and leased locomotives and rail cars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices, and facilities; and vehicles for maintenance, transportation of crews, and other activities. As of December 31, 2019, we owned or leased the following units of equipment:

Locomotives	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Multiple purpose	6,206	1,214	7,420	21.2
Switching	182	-	182	39.1
Other	28	61	89	40.2
Total locomotives	6,416	1,275	7,691	N/A

Freight cars	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Covered hoppers	13,357	9,727	23,084	20.1
Open hoppers	5,781	2,330	8,111	31.4
Gondolas	5,662	2,152	7,814	28.2
Boxcars	2,430	6,639	9,069	38.1
Refrigerated cars	2,625	2,546	5,171	25.4
Flat cars	2,186	1,093	3,279	34.0
Other	3	345	348	31.4
Total freight cars	32,044	24,832	56,876	N/A

Highway revenue equipment	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Containers	47,270	6,602	53,872	8.9
Chassis	30,446	17,408	47,854	11.2
Total highway revenue equipment	77,716	24,010	101,726	N/A

We continuously assess our need for equipment to run an efficient and reliable network. Many factors cause us to adjust the size of our active fleets, including changes in carload volume, weather events, seasonality, customer preferences and productivity initiatives. As some of these factors are difficult to assess or can change rapidly, we maintain a surge fleet to remain agile. Without the surge fleet, our ability to react quickly is hindered as equipment suppliers are limited and lead times to acquire equipment are long and may be in excess of a year. We believe that we have sufficient capacity to adapt to changes in freight volumes and adjust the utilization of our assets accordingly. Moreover, we believe our locomotive and freight car fleets are appropriately sized and suitable to meet our current and future business requirements. Locomotive and freight car in service utilization percentages for the year ended December 31, 2019 were 71% and 72%, respectively.

CAPITAL EXPENDITURES

Our rail network requires significant annual capital investments for replacement, improvement, and expansion. These investments enhance safety, support the transportation needs of our customers, and improve our operational efficiency. Additionally, we add new locomotives and freight cars to our fleet to replace older, less efficient equipment, to support growth and customer demand, and to reduce our impact on the environment through the acquisition of more fuel-efficient and low-emission locomotives.

2019 Capital Program – During 2019, our capital program totaled approximately $3.2 billion. (See the cash capital investments table in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.)

2020 Capital Plan – In 2020, we expect our capital plan to be approximately $3.1 billion, down slightly compared to 2019. The plan includes expenditures for capacity and facility investments intended to improve productivity and operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion of our 2020 capital plan in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.)

OTHER

Equipment Encumbrances – Equipment with a carrying value of approximately $1.6 billion and $1.8 billion at December 31, 2019, and 2018, respectively served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Environmental Matters – Certain of our properties are subject to federal, state, and local laws and regulations governing the protection of the environment. (See discussion of environmental issues in Business – Governmental and Environmental Regulation, Item 1, Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7, and Note 18 of the Consolidated Financial Statements.)

Item 3. Legal Proceedings

From time to time, we are involved in legal proceedings, claims, and litigation that occur in connection with our business. We routinely assess our liabilities and contingencies in connection with these matters based upon the latest available information and, when necessary, we seek input from our third-party advisors when making these assessments. Consistent with SEC rules and requirements, we describe below material pending legal proceedings (other than ordinary routine litigation incidental to our business), material proceedings known to be contemplated by governmental authorities, other proceedings arising under federal, state, or local environmental laws and regulations (including governmental proceedings involving potential fines, penalties, or other monetary sanctions in excess of $100,000), and such other pending matters that we may determine to be appropriate.

ENVIRONMENTAL MATTERS

In October 2016, the Colorado Department of Public Health & Environment (the agency) expressed concerns over construction activities performed by UPRR inside the Moffat Tunnel. Those activities, which were deemed safety critical, had caused contaminants from inside the tunnel to be discharged into the adjacent Frasier River in violation of the tunnel's National Pollutant Discharge Elimination System (NPDES) permit. Following extensive discussions with the agency, and UPRR's commitment to install and operate best management practices (BMPs), the agency agreed to allow UPRR to resume safety-related construction activities. In February 2018, the agency issued a notice of violation (NOV) which alleged violations of State water laws and the NPDES permit. The NOV mandated a number of corrective actions to be implemented immediately and reserved for a later date the issue of penalties. In June 2019, the agency contacted UPRR to engage in discussions regarding an appropriate monetary penalty. In September 2019, the parties reached a preliminary agreement on the amount of the penalty of $140,000. The agreement was finalized and the penalty payment was made on January 21, 2020 in the amount of $140,000.

We receive notices from the EPA and state environmental agencies alleging that we are or may be liable under federal or state environmental laws for remediation costs at various sites throughout the U.S., including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7. See also Note 18 of the Consolidated Financial Statements.

OTHER MATTERS

Antitrust Litigation – As we reported in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, 20 rail shippers (many of whom are represented by the same law firms) filed virtually identical antitrust lawsuits in various federal district courts against us and four other Class I railroads in the U.S. Currently, UPRR and three other Class I railroads are the named defendants in the lawsuit. The original plaintiff filed the first of these claims in the U.S. District Court in New Jersey on May 14, 2007. These suits alleged that the named railroads engaged in price-fixing by establishing common fuel surcharges for certain rail traffic.

As previously reported in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, an appellate hearing related to the U.S. District Court for the District of Columbia's denial of class certification for the rail shippers was held on September 28, 2018. On August 16, 2019, the U.S. Court of Appeals for the District of Columbia Circuit affirmed the decision of U.S. District Court denying class certification (the Certification Denial). Since the Certification Denial, approximately 50 lawsuits have been filed in federal court based on claims identical to those alleged in the class certification case. The Judicial Panel on Multidistrict Litigation is currently evaluating the appropriate forum and process for the administration of these cases. Union Pacific believes these claims are without merit.

As we reported in our Current Report on Form 8-K, filed on June 10, 2011, the Railroad received a complaint filed in the U.S. District Court for the District of Columbia on June 7, 2011, by Oxbow Carbon & Minerals LLC and related entities (Oxbow). The fuel surcharge antitrust claim remains and was stayed pending the decision on class certification discussed above. As a result of the Certification Denial, and the individual cases, a status conference with the Court is expected to determine how the case will proceed.

We continue to deny the allegations that our fuel surcharge programs violate the antitrust laws or any other laws. We believe that these lawsuits are without merit, and we will vigorously defend our actions. Therefore, we currently believe that these matters will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

In 2016, a lawsuit was filed in U.S. District Court for the Western District of Washington alleging violations of the Americans with Disabilities Act (ADA) and Genetic Information Nondiscrimination Act relating to Fitness for Duty requirements for safety sensitive positions.

On August 8, 2016, the U.S. District Court for the Western District of Washington granted plaintiffs' motion to transfer their claim to the U.S. District Court of Nebraska. On February 5, 2019, the U.S. District Court of Nebraska granted plaintiffs’ motion to certify the ADA allegations as a class action. We were granted the right to appeal this class certification to the U.S. Court of Appeals for the Eighth Circuit on March 13, 2019. The matter was argued before the U.S. Court of Appeals for the Eighth Circuit in November 2019. The District Court proceedings have been stayed pending the decision by the Eighth Circuit. We continue to deny these allegations, believe this lawsuit is without merit and will defend our actions. We believe this lawsuit will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

Item 4. Mine Safety Disclosures

Not applicable.

Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries

The Board of Directors typically elects and designates our executive officers on an annual basis at the board meeting held in conjunction with the Annual Meeting of Shareholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year, as the Board of Directors considers appropriate. There are no family relationships among the officers, nor is there 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 current as of February 7, 2020, relating to the executive officers.

Name	Position	Age	Business Experience During Past Five Years
Lance M. Fritz	Chairman, President and Chief Executive Officer of UPC and the Railroad	57	[1]
Jennifer L. Hamann	Executive Vice President and Chief Financial Officer of UPC and the Railroad	52	[2]
Rhonda S. Ferguson	Executive Vice President and Chief Legal Officer and Corporate Secretary of UPC and the Railroad	50	[3]
Thomas A. Lischer	Executive Vice President - Operations of the Railroad	47	[4]
Kenny G. Rocker	Executive Vice President - Marketing and Sales of the Railroad	48	[5]
Todd M. Rynaski	Vice President and Controller of UPC and the Railroad	49	[6]
V. James Vena	Chief Operating Officer of UPC and the Railroad	61	[7]
Elizabeth F. Whited	Executive Vice President and Chief Human Resources Officer of UPC and the Railroad	54	[8]

[1] On July 30, 2015, Mr. Fritz was named Chairman of the Board of UPC and the Railroad effective October 1, 2015. Mr. Fritz was elected President and Chief Executive Officer of UPC and the Railroad effective February 5, 2015. Previously, Mr. Fritz was President and Chief Operating Officer of the Railroad effective February 6, 2014.

[2] Ms. Hamann was elected Executive Vice President and Chief Financial Officer of UPC and the Railroad effective January 1, 2020. She previously served as Senior Vice President-Finance (April 2019 – December 2019), Vice President-Planning & Analysis (October 2017 – March 2019), Vice President & General Manager-Autos (February 2016 – September 2017), and General Auditor (April 2011 – January 2016).

[3] Ms. Ferguson was elected Corporate Secretary of UPC and the Railroad effective December 1, 2017, and Executive Vice President and Chief Legal Officer of UPC and the Railroad effective July 11, 2016. She previously was Vice President, Corporate Secretary and Chief Ethics Officer of FirstEnergy Corp. since 2007.

[4] Mr. Lischer was elected Executive Vice President – Operations of the Railroad effective August 15, 2018. Previously, Mr. Lischer served as Vice President of the Harriman Dispatching Center and Network Operations for the Railroad. Prior to this election, Mr. Lischer served as Assistant Vice President of Operations for the North Region (September 2016 – April 2017) and Assistant Vice President of Locomotive Distribution and Network Operations (April 2014 – September 2016).

[5] Mr. Rocker was elected Executive Vice President – Marketing and Sales of the Railroad effective August 15, 2018. Mr. Rocker previously served at the Railroad as Vice President – Marketing and Sales – Industrial team. Prior to this election, Mr. Rocker served as Assistant Vice President – Chemicals (April 2014 – September 2016).

[6] Mr. Rynaski was elected Vice President and Controller of UPC and the Railroad effective September 1, 2015. He previously was Assistant Vice President – Accounting of the Railroad effective January 1, 2014.

[7] Mr. Vena was elected Chief Operating Officer of UPC and the Railroad effective January 14, 2019. Mr. Vena previously served as Executive Vice President and Chief Operating Officer of Canadian National Railway Company (CN) from February 2013 until his retirement in June 2016.

[8] Ms. Whited was elected Executive Vice President and Chief Human Resources Officer of UPC and the Railroad effective August 15, 2018. She previously served as Executive Vice President and Chief Marketing Officer (December 2016 – August 2018) and Vice President and General Manager – Chemicals (October 2012 – December 2016).

PART II

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

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "UNP".

At January 31, 2020, there were 690,261,490 shares of common stock outstanding and 30,183 common shareholders of record. On that date, the closing price of the common stock on the NYSE was $179.42. We paid dividends to our common shareholders during each of the past 120 years.

Comparison Over One- and Three-Year Periods – The following table presents the cumulative total shareholder returns, assuming reinvestment of dividends, over one- and three-year periods for the Corporation (UNP), a peer group index (comprised of CSX Corporation and Norfolk Southern Corporation), the Dow Jones Transportation Index (DJ Trans), and the Standard & Poor's 500 Stock Index (S&P 500).

Period	*UNP*	*Peer Group*	*DJ Trans*	*S&P 500*
1 Year (2019)	33.7 %	24.8 %	20.8 %	31.5 %
3 Year (2017 - 2019)	86.1	101.2	26.1	53.1

Five-Year Performance Comparison – The following graph provides an indicator of cumulative total shareholder returns for the Corporation as compared to the peer group index (described above), the DJ Trans, and the S&P 500. The graph assumes that $100 was invested in the common stock of Union Pacific Corporation and each index on December 31, 2014 and that all dividends were reinvested. The information below is historical in nature and is not necessarily indicative of future performance.

Picture 3

Purchases of Equity Securities – During 2019, we repurchased 35,638,112 shares of our common stock at an average price of $165.77. The following table presents common stock repurchases during each month for the fourth quarter of 2019:

Period	*Total Number of Shares Purchased [a]*	*Average Price Paid Per Share*	*Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program*	*Maximum Number of Shares Remaining Under the Plan or Program [b]*
Oct. 1 through Oct. 31	1,896,014	$ 159.31	1,888,893	134,848,400
Nov. 1 through Nov. 30	746,296	176.00	732,094	134,116,306
Dec. 1 through Dec. 31	965,841	176.47	961,225	133,155,081
Total	3,608,151	$ 167.36	3,582,212	N/A

[a] Total number of shares purchased during the quarter includes approximately 25,939 shares delivered or attested to UPC by employees to pay stock option exercise prices, satisfy excess tax withholding obligations for stock option exercises or vesting of retention units, and pay withholding obligations for vesting of retention shares.

[b] Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions.

Item 6. Selected Financial Data

The following table presents as of, and for the years ended, December 31, our selected financial data for each of the last five years. The selected financial data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and with the Financial Statements and Supplementary Data, Item 8. The information below is historical in nature and is not necessarily indicative of future financial condition or results of operations.

Millions, Except per Share Amounts, Carloads, Employee Statistics, and Ratios	***2019***	*2018*	*2017[a]*	*2016*	*2015*
For the Year Ended December 31					
Operating revenues [b]	**$ 21,708**	$ 22,832	$ 21,240	$ 19,941	$ 21,813
Operating income	**8,554**	8,517	8,106	7,243	8,082
Net income	**5,919**	5,966	10,712	4,233	4,772
Earnings per share - basic	**8.41**	7.95	13.42	5.09	5.51
Earnings per share - diluted	**8.38**	7.91	13.36	5.07	5.49
Dividends declared per share	**3.70**	3.06	2.48	2.255	2.20
Cash provided by operating activities	**8,609**	8,686	7,230	7,525	7,344
Cash used in investing activities	**(3,435)**	(3,411)	(3,086)	(3,393)	(4,476)
Cash used in financing activities	**(5,646)**	(5,222)	(4,146)	(4,246)	(3,063)
Cash used for share repurchase programs	**(5,804)**	(8,225)	(4,013)	(3,105)	(3,465)
At December 31					
Total assets	**$ 61,673**	$ 59,147	$ 57,806	$ 55,718	$ 54,600
Long-term obligations [c]	**39,194**	34,098	29,011	32,146	30,692
Debt due after one year	**23,943**	20,925	16,144	14,249	13,607
Common shareholders' equity	**18,128**	20,423	24,856	19,932	20,702
Additional Data					
Freight revenues [b]	**$ 20,243**	$ 21,384	$ 19,837	$ 18,601	$ 20,397
Revenue carloads (units) (000)	**8,346**	8,908	8,588	8,442	9,062
Operating ratio (%) [d]	**60.6**	62.7	61.8	63.7	62.9
Average employees (000)	**37.5**	42.0	42.0	42.9	47.5
Financial Ratios (%)					
Return on average common shareholders' equity [e]	**30.7**	26.4	47.8	20.8	22.8

[a] 2017 includes a $5.9 billion non-cash reduction to income tax expense and $212 million non-cash reduction to operating expenses related to the Tax Cuts and Jobs Act enacted on December 22, 2017.

[b] Includes fuel surcharge revenue of $1.6 billion, $1.7 billion, $966 million, $560 million, and $1.3 billion for 2019, 2018, 2017, 2016, and 2015, respectively, which partially offsets increased operating expenses for fuel. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations – Item 7.)

[c] Long-term obligations is determined as follows: total liabilities less current liabilities.

[d] Operating ratio is defined as operating expenses divided by operating revenues.

[e] Return on average common shareholders' equity is determined as follows: Net income divided by average common shareholders' equity.

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable notes to the Financial Statements and Supplementary Data, Item 8, and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Policies and Cautionary Information at the end of this Item 7. The following section generally discusses 2019 and 2018 items and year-to-year comparisons between 2019 and 2018. Discussions of 2017 items and year-to-year comparisons between 2018 and 2017 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable business segment. Although revenue is analyzed by commodity, we analyze the net financial results of the Railroad as one segment due to the integrated nature of the rail network.

EXECUTIVE SUMMARY

2019 Results

- **Safety** – While 2019 was a year of significant operational change at the Company, we remained committed to the safety of our employees, our customers and the public. As we implemented Unified Plan 2020, we remained focused on identifying and managing risk and training our employees as their work environment changed. Despite these efforts, our safety results were not good enough. Our personal injury incidents per 200,000 employee-hours increased 11% from 2018 and our reportable derailment incident rate per million train miles increased 30%. Although there was a significant increase in reportable derailments for the year, we did see sequential improvement in the fourth quarter. We want every employee to return home safely every day and to eliminate all derailments, so we must do better in 2020 by identifying and implementing best practices in this ever changing environment.

- **Network Operations: Unified Plan 2020** – The year began with a series of significant weather events. Heavy snowfall and harsh winter conditions in the Midwest and Pacific Northwest were followed by widespread flooding across the central and southern portions of our network. Despite the disruptions, we remained focused on the implementation of Unified Plan 2020, the Company's plan for operating a safe, reliable and efficient railroad by increasing reliability of our service product, reducing variability in network operations, and improving resource utilization costs.

  Although our operational changes were impacted by weather in the early part of 2019, our key performance indicators have improved substantially year-over-year. Improvement in asset utilization and fewer car classifications led to 17% improvement in freight car terminal dwell and 6% improvement in freight car velocity. We also saw 13% improvement in locomotive productivity and 2% improvement in work force productivity. Additional detail on these metrics are discussed in Other Operating / Performance and Financial Statistics of Item 7.

  A component of Unified Plan 2020 is to look for ways to reduce "car touches" on our network, which ultimately results in opportunities to reduce the number of terminals where we perform switching activities. Our terminal rationalization efforts in 2019 include no longer humping cars at our yards in Pine Bluff, AR, Proviso (Chicago), IL, Hinkle, OR and Neff yard in Kansas City, MO. In addition, we have curtailed switching and equipment maintenance operations at various locations throughout the network.

- **Freight Revenues** – Our freight revenues decreased 5% year-over-year to $20.2 billion driven by a volume decline of 6% and negative mix of traffic, partially offset by core pricing gains. We saw weak demand in several markets, particularly intermodal, coal, frac sand, grain, finished vehicles and lumber. These declines were partially offset by growth in petroleum products, construction materials, plastics, wheat and hazardous waste markets.

- **Financial Results** – In 2019, we generated operating income of $8.6 billion, flat with 2018 despite the 6% carload decline. Lower volumes, productivity initiatives and lower fuel prices drove operating expenses down 8% from 2018. These factors coupled with improved pricing offset the impact of the revenue decline and drove an all-time record 60.6% operating ratio, improving 2.1 points from 2018.

Net income of nearly $6.0 billion translated into earnings of $8.38 per diluted share, up 6% from last year.

- **Fuel Prices** – Our average price of diesel fuel in 2019 was $2.13 per gallon, a decrease of 7% from 2018. The lower price resulted in lower operating expenses of $144 million (excluding any impact from year-over-year volume declines). Gross-ton miles decreased 9% and our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles, improved 2%, both of which drove lower fuel expense.

- **Cash Provided by Operating Activities and Free Cash Flow** – Cash generated by operating activities totaled nearly $8.6 billion, yielding free cash flow of $2.6 billion after reductions of $3.4 billion for cash used in investing activities and $2.6 billion in dividends, which included two 10% increases in our quarterly dividend per share from $0.80 in the fourth quarter of 2018 to $0.88 in the first quarter of 2019 and $0.97 in the third quarter of 2019. Free cash flow is defined as cash provided by operating activities less cash used in investing activities and dividends paid.

  Free cash flow is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe free cash flow is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financings. Free cash flow should be considered in addition to, rather than as a substitute for, cash provided by operating activities. The following table reconciles cash provided by operating activities (GAAP measure) to free cash flow (non-GAAP measure):

Millions		***2019***		*2018*		*2017*
Cash provided by operating activities	**$**	**8,609**	$	8,686	$	7,230
Cash used in investing activities		**(3,435)**		(3,411)		(3,086)
Dividends paid		**(2,598)**		(2,299)		(1,982)
Free cash flow	**$**	**2,576**	$	2,976	$	2,162

2020 Outlook

- **Safety** – Operating a safe railroad benefits all our constituents: our employees, customers, shareholders and the communities we serve. We will continue using a multi-faceted approach to safety, utilizing technology, risk assessment, training and employee engagement, quality control, and targeted capital investments. We will continue using and expanding the deployment of Total Safety Culture, Courage to Care and COMMIT (Coaching, Observing, Mentoring and Motivating with Integrity and Trust) throughout our operations, which allows us to identify and implement best practices for employee and operational safety. We have formed an Operating Practices Command Center to identify causes of mainline service interruptions and develop solutions. In addition, they assist employees with understanding policies, procedures and best practices for handling trains. We will continue our efforts to utilize data to identify and mitigate risk; detect rail defects; improve or close crossings; and educate the public and law enforcement agencies about crossing safety through a combination of our own programs (including risk assessment strategies), industry programs and local community activities across the network.

- **Network Operations** – In 2020, we will continue to implement Unified Plan 2020 and G55+0 initiatives to further increase reliability of our service product, reduce variability in network operations, and improve resource utilization. Continued implementation of these initiatives will include utilizing our existing network capacity, longer train length, and fewer car touches resulting in additional terminal consolidation opportunities, improved asset utilization, and fewer car classifications. These additional changes, combined with other G55+0 initiatives, are designed to better align our management structure and decision making processes to be more agile and responsive to our customers' needs.

- **Market Conditions** – We expect uncertainties in various markets to continue in 2020. Similar to 2019, natural gas prices and weather conditions may impact demand for coal; crude oil price spreads may drive demand for petroleum products and drilling materials; available truck capacity could impact our intermodal business; and international trade agreements such as United States-Mexico-Canada Agreement and "Phase One" with China should promote trade.

- **Fuel Prices** – Projections for crude oil and natural gas continue to fluctuate in the current environment. We again could see volatile fuel prices during the year, as they are sensitive to global and U.S. domestic demand, refining capacity, geopolitical events, weather conditions and other factors. As prices fluctuate, there will be a timing impact on earnings, as our fuel surcharge programs trail increases or decreases in fuel price by approximately two months.

  Significant changes in fuel prices could have an impact on the amount of consumer discretionary spending, impacting demand for various consumer products we transport. Alternatively, those changes could have an inverse impact on commodities such as coal and domestic drilling-related shipments.

- **Capital Plan** – In 2020, we expect our capital plan to be approximately $3.1 billion, down slightly compared to 2019. It is anticipated that capital spending in most asset categories will be flat or down compared to 2019 spending. In addition, this plan includes an increase in capacity and facility investments intended to improve productivity and operational efficiency. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion in this Item 7 under Liquidity and Capital Resources – Capital Plan).

- **Financial Expectations** – We expect volume to be slightly positive in 2020 compared to 2019. In the current environment, we expect continued margin improvement driven by pricing opportunities in excess of inflation, ongoing G55+0 productivity initiatives, including Unified Plan 2020, resulting in at least $500 million of productivity savings, while better leveraging our resources and strengthening our franchise.

RESULTS OF OPERATIONS

Operating Revenues

Millions	***2019***	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Freight revenues	**$ 20,243**	$ 21,384	$ 19,837	**(5)%**	8 %
Other subsidiary revenues	**880**	881	885	**-**	-
Accessorial revenues	**514**	502	458	**2**	10
Other	**71**	65	60	**9**	8
Total	**$ 21,708**	$ 22,832	$ 21,240	**(5)%**	7 %

We generate freight revenues by transporting freight or other materials from our four commodity groups. Freight revenues vary with volume (carloads) and average revenue per car (ARC). Changes in price, traffic mix and fuel surcharges drive ARC. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied. We recognize freight revenues over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Freight revenues decreased 5% year-over-year to $20.2 billion driven by a 6% volume decline and negative mix of traffic, partially offset by core pricing gains. We saw weak demand in several markets, particularly intermodal, coal, frac sand, grain, finished vehicles and lumber. These declines were partially offset by growth in petroleum products, construction materials, plastics, wheat and hazardous waste markets.

Our fuel surcharge programs generated freight revenues of $1.6 billion and $1.7 billion in 2019 and 2018, respectively. Fuel surcharge revenue in 2019 decreased $183 million as a result of a 6% decline in carloadings and a 7% decrease in fuel price.

In 2019, other revenues increased from 2018 driven by higher accessorial charges focused on incentivizing customers' efficient use of Company assets partially offset by volume declines.

The following tables summarize the year-over-year changes in freight revenues, revenue carloads, and ARC by commodity type:

Freight Revenues *Millions*	***2019***	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Agricultural Products	**$ 4,444**	$ 4,469	$ 4,303	**(1)%**	4 %
Energy	**3,761**	4,608	4,498	**(18)**	2
Industrial	**5,796**	5,679	5,204	**2**	9
Premium	**6,242**	6,628	5,832	**(6)**	14
Total	**$ 20,243**	$ 21,384	$ 19,837	**(5)%**	8 %

Revenue Carloads *Thousands*	***2019***	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Agricultural Products	**1,091**	1,124	1,141	**(3)%**	(1)%
Energy	**1,408**	1,650	1,676	**(15)**	(2)
Industrial	**1,787**	1,752	1,655	**2**	6
Premium [a]	**4,060**	4,382	4,116	**(7)**	6
Total	**8,346**	8,908	8,588	**(6)%**	4 %

Average Revenue per Car	***2019***	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Agricultural Products	**$ 4,072**	$ 3,973	$ 3,770	**2 %**	5 %
Energy	**2,671**	2,793	2,685	**(4)**	4
Industrial	**3,244**	3,241	3,145	**-**	3
Premium	**1,538**	1,513	1,417	**2**	7
Average	**$ 2,425**	$ 2,400	$ 2,310	**1 %**	4 %

[a] For intermodal shipments, each container or trailer equals one carload.

Agricultural Products – Freight revenue from agricultural products shipments decreased in 2019 compared to 2018 due to 3% volume decline partially offset by core pricing gains. Declines in export grain and grain products were partially offset by stronger wheat shipments compared to 2018. The volume declines were also impacted by weather-related challenges experienced in the first half of 2019.

2019 Agricultural Products Carloads
Picture 2

Energy – Freight revenue from energy shipments decreased in 2019 compared to 2018 due to a 15% decrease in volume and negative mix of traffic, partially offset by core pricing gains. Frac sand shipments declined 48% compared to last year as regional sand supplies displaced select shipments originating from the upper Midwest. Coal and coke shipments declined 16% primarily due to lower natural gas prices, decreased exports and losses of commercial contracts. In addition, weather related challenges experienced in the first half of 2019 also contributed to the volume declines. Growth in petroleum shipments (both crude and refined) due to strong drilling activity partially offset the sand and coal volume losses.

2019 Energy Carloads
Picture 14

Industrial – Freight revenue from industrial shipments increased in 2019 versus 2018 due to core pricing gains and volume growth partially offset by negative mix of traffic. Volume increased 2% compared to 2018 driven by strong demand in construction products and plastics, while forest products shipments decreased due to softness in the lumber and paper markets. Volume levels were also impacted by weather-related challenges experienced in the first half of 2019.

2019 Industrial Carloads
Picture 20

2019 Premium Carloads
Picture 23

Premium – Freight revenue from premium shipments decreased in 2019 compared to 2018 due to volume declines, partially offset by core pricing gains. Volume decreased 7% compared to 2018 driven by lower domestic intermodal shipments, including containerized automotive parts, due to increased truck competition. Weak market conditions reflecting trade uncertainty and escalating tariffs contributed to the volume reductions as international shipments were 6% lower. Weakness in the second half of the year more than offset the strength in the first half of the year due to the tariff-related surge in January shipments and newly secured business. Volumes were also unfavorably impacted by weather-related challenges experienced in the first half of 2019.

Mexico Business – Each of our commodity groups includes revenue from shipments to and from Mexico. Revenue from Mexico business was $2.3 billion in 2019, down 6% compared to 2018, driven by a 7% decline in volume partially offset by core pricing gains. The decrease in volume was driven by fewer shipments of automotive parts, grain, coal, intermodal and finished vehicles partially offset by growth in petroleum products, metallic minerals, beverages and industrial chemicals shipments.

Operating Expenses

Millions	***2019***	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Compensation and benefits	**$ 4,533**	$ 5,056	$ 4,939	**(10)%**	2 %
Purchased services and materials	**2,254**	2,443	2,363	**(8)**	3
Depreciation	**2,216**	2,191	2,105	**1**	4
Fuel	**2,107**	2,531	1,891	**(17)**	34
Equipment and other rents	**984**	1,072	888	**(8)**	21
Other	**1,060**	1,022	948	**4**	8
Total	**$ 13,154**	$ 14,315	$ 13,134	**(8)%**	9 %

Operating expenses decreased $1.2 billion in 2019 compared to 2018 driven by productivity improvements, cost savings from lower volume and lower fuel prices. Increased costs due to inflation, higher casualty costs and depreciation partially offset these decreases compared to 2018. In addition, expenses were impacted favorably due to the employment tax refund (Railroad Retirement Taxes paid on certain stock awards to its employees and certain bonus payments it made to labor agreement employees), and negatively due to the first half weather-related challenges (net of insurance recovery recognized in the fourth quarter).

2019 Operating Expenses
Picture 18

Compensation and Benefits – Compensation and benefits include wages, payroll taxes, health and welfare costs, pension costs, other postretirement benefits, and incentive costs. In 2019, expenses decreased 10% compared to 2018, due to volume-related costs, reduced workforce levels and the employment tax refund. Wage inflation, weather-related challenges and workforce reduction expenses partially offset the year-over-year improvement.

Fuel – Fuel includes locomotive fuel and gasoline for highway and non-highway vehicles and heavy equipment. Locomotive diesel fuel prices, which averaged $2.13 per gallon (including taxes and transportation costs) in 2019, compared to $2.29 per gallon in 2018, decreased expenses $144 million. Gross-ton miles decreased 9% and our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles, improved 2%, which both drove lower fuel expense.

Purchased Services and Materials – Expense for purchased services and materials includes the costs of services purchased from outside contractors and other service providers (including equipment maintenance and contract expenses incurred by our subsidiaries for external transportation services); materials used to maintain the Railroad's lines, structures, and equipment; costs of operating facilities jointly used by UPRR and other railroads; transportation and lodging for train crew employees; trucking and contracting costs for intermodal containers; leased automobile maintenance expenses; and tools and supplies. Purchased services and materials decreased 8% in 2019 compared to 2018 primarily due to volume-related costs for intermodal and transload services, lower locomotive expense due to a smaller active fleet, and lower costs for services purchased from outside contractors. Higher costs associated with derailments and weather-related challenges partially offset these reductions.

Depreciation – The majority of depreciation relates to road property, including rail, ties, ballast, and other track material. A higher depreciable asset base increased depreciation expense in 2019 compared to 2018.

Equipment and Other Rents – Equipment and other rents expense primarily includes rental expense that the Railroad pays for freight cars owned by other railroads or private companies; freight car, intermodal, and locomotive leases; and office and other rent expenses. Equity income from certain equity method investments is also included. Equipment and other rents expense decreased 8% compared to 2018 largely driven by volume declines, improved freight car cycle times and lower locomotive, freight car and container lease expenses.

Other – Other expenses include state and local taxes, freight, equipment and property damage, utilities, insurance, personal injury, environmental, employee travel, telephone and cellular, computer software, bad debt, and other general expenses. Other expenses increased 4% in 2019 compared to 2018 as a result of higher casualty costs and state and local taxes. Lower costs associated with employee travel and an insurance reimbursement for weather-related expenses incurred earlier in the year partially offset these increases.

Non-Operating Items

Millions		***2019***		*2018*		*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Other income	**$**	**243**	$	94	$	245	**F %**	(62)%
Interest expense		**(1,050)**		(870)		(719)	**21**	21
Income tax benefit/ (expense)		**(1,828)**		(1,775)		3,080	**3**	U

Other Income – Other income increased in 2019 compared to 2018 due to $85 million of expense associated with early-extinguishment of outstanding debentures and mortgage bonds in 2018, $31 million in interest income associated with the employment tax refund in 2019 and lower costs associated with our benefit plans.

Interest Expense – Interest expense increased in 2019 compared to 2018 due to an increased weighted-average debt level of $24.8 billion in 2019 from $20.1 billion in 2018 partially offset by the impact of a lower effective interest rate of 4.3% in 2019 compared to 4.4 % in 2018.

Income Taxes – Income tax expense increased 3% in 2019 compared to 2018. Our effective tax rate for 2019 increased 0.7 points to 23.6% compared to 22.9% in 2018. The increase was driven by higher state and foreign taxes as compared to the prior year.

OTHER OPERATING/PERFORMANCE AND FINANCIAL STATISTICS

We report a number of key performance measures weekly to the STB. We provide this data on our website at www.up.com/investor/aar-stb_reports/index.htm.

Operating/Performance Statistics

Railroad performance measures are included in the table below:

	2019	*2018*	*2017*	***% Change 2019 v 2018***	*% Change 2018 v 2017*
Gross ton-miles (GTMs) (billions)	**846.6**	928.6	898.7	**(9)%**	3 %
Revenue ton-miles (billions)	**423.4**	474.0	466.7	**(11)**	2
Freight car velocity (daily miles per car) [a]	**208**	196	201	**6**	(2)
Average train speed (miles per hour) [a] [b]	**25.1**	26.1	27.2	**(4)**	(4)
Average terminal dwell time (hours) [a] [b]	**24.8**	29.8	30.5	**(17)**	(2)
Locomotive productivity (GTMs per horsepower day)	**120**	106	109	**13**	(3)
Workforce productivity (car miles per employee)	**857**	839	806	**2**	4
Employees (average)	**37,483**	41,967	41,992	**(11)**	-
Operating ratio	**60.6**	62.7	61.8	**(2.1)pts**	0.9 pts

[a] Prior years have been recast to conform to the current year presentation which reflects minor refinements.
[b] As reported to the STB.

Gross and Revenue Ton-Miles – Gross ton-miles are calculated by multiplying the weight of loaded and empty freight cars by the number of miles hauled. Revenue ton-miles are calculated by multiplying the weight of freight by the number of tariff miles. Gross ton-miles and revenue ton-miles decreased 9% and 11%, respectively in 2019 compared to 2018, driven by a 6% decline in carloadings. Changes in commodity mix drove the variance in year-over-year decreases between gross ton-miles, revenue ton-miles and carloads.

Freight Car Velocity – Freight car velocity measures the average daily miles per car on our network. The two key drivers of this metric are the speed of the train between terminals (average train speed) and the time a rail car spends at the terminals (average terminal dwell time). Implementation of Unified Plan 2020 drove the 6% improvement from 2018. Average terminal dwell time in 2019 decreased 17% compared to 2018 largely due to improved terminal processes, transportation plan changes to eliminate switches, and a decrease in freight car inventory levels. Partially offsetting the improvements in terminal dwell, average train speed in 2019 declined 4% compared to 2018, largely due to an increase in work events and weather-related challenges in the first half of the year, however the overall movement of freight cars is faster.

Locomotive Productivity – Locomotive productivity is gross ton-miles per average daily locomotive horsepower. Locomotive productivity increased 13% in 2019 compared to 2018 driven by a 20% reduction in our average active fleet size.

Workforce Productivity – Workforce productivity is average daily car miles per employee. Workforce productivity improved 2% as average daily car miles decreased 9% while employees decreased 11% compared to 2018. Lower carload volumes drove the decline in average daily car miles. The 11% decline in employee levels was driven by a 6% decline in carload volumes, initiatives to further right-size the workforce and a smaller capital workforce. At the end of 2019, approximately 5,000 employees across all crafts were either furloughed or in alternate work status.

Operating Ratio – Operating ratio is our operating expenses reflected as a percentage of operating revenue. Our operating ratio of 60.6% was an all-time record and improved 2.1 points compared to 2018 mainly driven by productivity initiatives, core pricing gains, and lower fuel prices, which were partially offset by inflation, increased casualty costs and other cost hurdles.

Return on Average Common Shareholders' Equity

Millions, Except Percentages		***2019***		*2018*		*2017*
Net income	**$**	**5,919**	$	5,966	$	10,712
Average equity	**$**	**19,276**	$	22,640	$	22,394
Return on average common shareholders' equity		**30.7%**		26.4%		47.8%

Return on Invested Capital as Adjusted (ROIC)

Millions, Except Percentages		***2019***		*2018*		*2017*
Net income	**$**	**5,919**	$	5,966	$	10,712
Interest expense		**1,050**		870		719
Interest on average operating lease liabilities		**76**		82		105
Taxes on interest		**(266)**		(218)		(309)
Net operating profit after taxes as adjusted	**$**	**6,779**	$	6,700	$	11,227
Average equity	**$**	**19,276**	$	22,640	$	22,394
Average debt		**23,796**		19,668		15,976
Average operating lease liabilities		**2,052**		2,206		2,288
Average invested capital as adjusted	**$**	**45,124**	$	44,514	$	40,658
Return on Invested Capital as Adjusted		**15.0%**		15.1%		27.6%

ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. In addition, we currently use ROIC as a performance criteria in determining certain elements of equity compensation for our executives. ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common

Shareholders' Equity. The tables above provide reconciliations from return on average common shareholders' equity to ROIC. At both December 31, 2019 and December 31, 2018, the incremental borrowing rate on operating leases was 3.7%. At December 31, 2017 our operating leases were discounted using our effective interest rate on debt of 4.6%.

Net Return on Invested Capital as Adjusted (Net ROIC)

The table below reconciles ROIC as previously calculated to Net ROIC for items affecting comparability.

	2019	*2018*	*2017*
Return on invested capital as adjusted	**15.0%**	15.1%	27.6%
Factors Affecting Comparability:			
Adjustments for Tax Cuts and Jobs Act [a]	N/A	N/A	(13.9)%
Net Return on Invested Capital as Adjusted	**15.0%**	15.1%	13.7%

[a] *Adjustments remove the impact of $5.9 billion and $139 million from both 12/31/17 Net Income and 12/31/17 Shareholders' Equity.*

Net ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. We use Net ROIC to demonstrate year over year comparability for significant items. Net ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity.

Adjusted Debt / Adjusted EBITDA

Millions, Except Ratios		***Dec. 31, 2019***		*Dec. 31, 2018*		*Dec. 31, 2017*
Net income	**$**	**5,919**	$	5,966	$	10,712
Add:						
Income tax expense/ (benefit)		**1,828**		1,775		(3,080)
Depreciation		**2,216**		2,191		2,105
Interest expense		**1,050**		870		719
EBITDA	**$**	**11,013**	$	10,802	$	10,456
Adjustments:						
Other income		**(243)**		(94)		(245)
Interest on operating lease liabilities		**68**		84		98
Adjusted EBITDA	**$**	**10,838**	$	10,792	$	10,309
Debt	**$**	**25,200**	$	22,391	$	16,944
Operating lease liabilities		**1,833**		2,271		2,140
Unfunded pension and OPEB,						
net of taxes of $124, $135, and $238		**400**		456		396
Adjusted debt	**$**	**27,433**	$	25,118	$	19,480
Adjusted debt / Adjusted EBITDA		**2.5**		2.3		1.9

Adjusted debt to Adjusted EBITDA (earnings before interest, taxes, depreciation, amortization and adjustments for other income and interest on present value of operating leases) is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the Company's ability to sustain given debt levels (including leases) with the cash generated from operations. In addition, a comparable measure is used by rating agencies when reviewing the Company's credit rating. Adjusted debt to Adjusted EBITDA should be considered in addition to, rather than as a substitute for, net income. The table above provides reconciliations from net income to adjusted debt to adjusted EBITDA. At both December 31, 2019 and December 31, 2018, the incremental borrowing rate on operating leases was 3.7%. At December 31, 2017, operating leases were discounted using our effective interest rate on debt of 4.6%.

LIQUIDITY AND CAPITAL RESOURCES

At both December 31, 2019 and December 31, 2018, we had a working capital deficit. The deficits are primarily due to upcoming debt maturities. As past years indicate, it is not unusual for us to have a working capital deficit; however, we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility, and when necessary, access to capital markets to meet any foreseeable cash requirements.

As of December 31, 2019, our principal sources of liquidity included cash, cash equivalents, our receivables securitization facility, and our revolving credit facility, as well as the availability of commercial paper and other sources of financing through the capital markets. We had $2.0 billion of committed credit available under our credit facility, with no borrowings outstanding as of December 31, 2019. We did not draw on our current facility or previous facility at any time during 2019. The value of the outstanding undivided interest held by investors under the $800 million capacity receivables securitization facility was $400 million as of December 31, 2019. Our access to this receivables securitization facility may be reduced or restricted if our bond ratings fall to certain levels below investment grade. If our bond rating were to deteriorate, it could have an adverse impact on our liquidity. Access to commercial paper as well as other capital market financings is dependent on market conditions. Deterioration of our operating results or financial condition due to internal or external factors could negatively impact our ability to access capital markets as a source of liquidity. Access to liquidity through the capital markets is also dependent on our financial stability. We expect that we will continue to have access to liquidity through any or all of the following sources or activities: (i) increasing the size or utilization of our receivables securitization, (ii) issuing commercial paper, (iii) entering into bank loans, outside of our revolving credit facility, or (iv) issuing bonds or other debt securities to public or private investors based on our assessment of the current condition of the credit markets. The Company's $2.0 billion revolving credit facility is intended to support the issuance of commercial paper by UPC and also serves as an additional source of liquidity to fund short term needs. The Company currently does not intend to make any borrowings under this facility.

Cash Flows						
Millions		***2019***		*2018*		*2017*
Cash provided by operating activities	**$**	**8,609**	$	8,686	$	7,230
Cash used in investing activities		**(3,435)**		(3,411)		(3,086)
Cash used in financing activities		**(5,646)**		(5,222)		(4,146)
Net change in cash, cash equivalents and restricted cash	**$**	**(472)**	$	53	$	(2)

Operating Activities

Cash provided by operating activities decreased in 2019 compared to 2018 due primarily to lower net income.

Investing Activities

Cash used in investing activities in 2019 increased compared to 2018.

The following tables detail cash capital investments and track statistics for the years ended December 31, 2019, 2018, and 2017:

Millions		***2019***		*2018*		*2017*
Rail and other track material	**$**	**561**	$	608	$	619
Ties		**427**		444		480
Ballast		**271**		216		231
Other [a]		**694**		576		503
Total road infrastructure replacements		**1,953**		1,844		1,833
Line expansion and other capacity projects		**357**		286		124
Commercial facilities		**183**		234		189
Total capacity and commercial facilities		**540**		520		313
Locomotives and freight cars [b]		**610**		716		607
Positive train control		**95**		158		336
Technology and other		**255**		199		149
Total cash capital investments	**$**	**3,453**	$	3,437	$	3,238

[a] Other includes bridges and tunnels, signals, other road assets, and road work equipment.
[b] Locomotives and freight cars include early lease buyouts of $290 million in 2019, $290 million in 2018, and $173 million in 2017.

	2019	*2018*	*2017*
Track miles of rail replaced	**534**	700	731
Track miles of rail capacity expansion	**55**	39	11
New ties installed (thousands)	**3,475**	4,285	4,026
Miles of track surfaced	**7,741**	9,466	11,071

Capital Plan – In 2020, we expect our capital plan to be approximately $3.1 billion, which may be revised if business conditions or the regulatory environment affect our ability to generate sufficient returns on these investments. While asset replacements will fluctuate as part of our renewal strategy, we expect to use 75% to 80% of our capital investments to renew and improve existing capital assets. We will continue to balance investment in our network infrastructure and terminal capacity as appropriate, including new capacity investments designed to improve productivity and operational efficiency. Significant investments will be made for locomotive modernization and freight car replacements.

We expect to fund our 2020 cash capital plan by using some or all of the following: cash generated from operations, proceeds from the sale or lease of various operating and non-operating properties, proceeds from the issuance of long-term debt, and cash on hand. Our annual capital plan is a critical component of our long-term strategic plan. We expect our plan will enhance the long-term value of the Company for our shareholders by providing sufficient resources to (i) replace and improve our existing track infrastructure to provide safe and fluid operations, (ii) increase network efficiency and productivity by adding or improving facilities and track, and (iii) make investments that meet customer demand and take advantage of opportunities for long-term growth.

Financing Activities

Cash used in financing activities increased in 2019 compared to 2018 driven by higher dividend payments in 2019 of $2,598 million compared to $2,299 million in 2018, reflecting higher dividends per share. Decreases in net debt issued of $2,574 were mostly offset by a decrease in share repurchase programs of $2,421 million.

See Note 15 of the Consolidated Financial Statements for a description of all our outstanding financing arrangements and significant new borrowings.

Share Repurchase Programs

Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions. As of December 31, 2019, we repurchased a total of $37.2 billion of our common stock since commencement of our repurchase programs in 2007. The table below represents shares repurchased under repurchase programs during 2018 and 2019:

	Number of Shares Purchased		*Average Price Paid*	
	2019	*2018*	***2019***	*2018*
First quarter [a]	**18,149,450**	9,259,004	**$ 165.79**	$ 132.84
Second quarter [b]	**3,732,974**	33,229,992	**171.24**	142.74
Third quarter [c]	**9,529,733**	2,239,405	**163.30**	151.94
Fourth quarter [d]	**3,582,212**	12,490,632	**167.32**	153.04
Total	**34,994,369**	57,219,033	**$ 165.85**	$ 143.75
Remaining number of shares that may be repurchased under current authority				133,155,081

[a] Includes 11,795,930 shares repurchased in February 2019 under accelerated share repurchase programs.
[b] Includes 19,870,292 shares repurchased in June 2018 under accelerated share repurchase programs.
[c] Includes 3,172,900 shares repurchased in August 2019 under accelerated share repurchase programs.
[d] Includes 4,457,356 shares repurchased in October 2018 under accelerated share repurchase programs.

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2020, through February 6, 2020, we repurchased 2.7 million shares at an aggregate cost of approximately $493 million.

Accelerated Share Repurchase Programs – The Company has established accelerated share repurchase programs (ASRs) with financial institutions to repurchase shares of our common stock. These ASRs have been structured so that at the time of commencement, we pay a specified amount to the financial institutions and receive an initial delivery of shares. Additional shares may be received at the time of settlement. The final number of shares to be received is based on the volume weighted average price of the Company's common stock during the ASR term, less a discount and subject to potential adjustments pursuant to the terms of such ASR.

On February 26, 2019, the Company received 11,795,930 shares of its common stock repurchased under ASRs for an aggregate of $2.5 billion. Upon settlement of these ASRs in the third quarter of 2019, we received 3,172,900 additional shares.

On June 15, 2018, the Company received 19,870,292 shares of its common stock repurchased under ASRs for an aggregate of $3.6 billion. Upon settlement of these ASRs in the fourth quarter of 2018, we received 4,457,356 additional shares.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

Contractual Obligations and Commercial Commitments

As described in the notes to the Consolidated Financial Statements and as referenced in the tables below, we have contractual obligations and commercial commitments that may affect our financial condition. Based on our assessment of the underlying provisions and circumstances of our contractual obligations and commercial commitments, including material sources of off-balance sheet and structured finance arrangements, other than the risks that we and other similarly situated companies face with respect to the condition of the capital markets (as described in Item 1A of Part II of this report), there is no known trend, demand, commitment, event, or uncertainty that is reasonably likely to occur that would have a material adverse effect on our consolidated results of operations, financial condition, or liquidity. In addition, our commercial obligations, financings, and commitments are customary transactions that are similar to those of other comparable corporations, particularly within the transportation industry.

The following tables identify material obligations and commitments as of December 31, 2019:

		Payments Due by December 31,						
Contractual Obligations							*After*	
Millions	*Total*	*2020*	*2021*	*2022*	*2023*	*2024*	*2024*	*Other*
Debt [a]	$ 43,867	$ 2,089	$ 2,059	$ 2,581	$ 2,146	$ 2,166	$ 32,826	$ -
Operating leases [b]	2,117	366	293	258	217	208	775	-
Finance lease obligations [c]	707	143	147	130	88	75	124	-
Purchase obligations [d]	3,019	1,441	460	240	166	142	535	35
Other post retirement benefits [e]	418	49	48	44	44	39	194	-
Income tax contingencies [f]	64	1	-	-	-	-	-	63
Total contractual obligations	$ 50,192	$ 4,089	$ 3,007	$ 3,253	$ 2,661	$ 2,630	$ 34,454	$ 98

[a] Excludes finance lease obligations of $605 million, as well as unamortized discount and deferred issuance costs of ($1,194) million. Includes an interest component of $18,078 million.
[b] Includes leases for locomotives, freight cars, other equipment, and real estate.
[c] Represents total obligations, including interest component of $102 million.
[d] Purchase obligations include locomotive maintenance contracts; purchase commitments for fuel purchases, ties, ballast, and rail; and agreements to purchase other goods and services. For amounts where we cannot reasonably estimate the year of settlement, they are reflected in the Other column.
[e] Includes estimated other post retirement, medical, and life insurance payments, payments made under the unfunded pension plan for the next ten years.
[f] Future cash flows for income tax contingencies reflect the recorded liabilities and assets for unrecognized tax benefits, including interest and penalties, as of December 31, 2019. For amounts where the year of settlement is uncertain, they are reflected in the Other column.

		Amount of Commitment Expiration per Period					
Other Commercial Commitments							*After*
Millions	*Total*	*2020*	*2021*	*2022*	*2023*	*2024*	*2024*
Credit facilities [a]	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -	$ -
Receivables securitization facility [b]	800	-	-	800	-	-	-
Guarantees [c]	15	5	5	5	-	-	-
Standby letters of credit [d]	18	9	9	-	-	-	-
Total commercial commitments	$ 2,833	$ 14	$ 14	$ 805	$ 2,000	$ -	$ -

[a] None of the credit facility was used as of December 31, 2019.
[b] $400 million of the receivables securitization facility was utilized as of December 31, 2019, which is accounted for as debt. The full program matures in July 2022.
[c] Includes guaranteed obligations related to our affiliated operations.
[d] None of the letters of credit were drawn upon as of December 31, 2019.

Off-Balance Sheet Arrangements

Guarantees – At December 31, 2019, and 2018, we were contingently liable for $15 million and $22 million in guarantees. The fair value of these obligations as of both December 31, 2019, and 2018, was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

OTHER MATTERS

Labor Agreements – Approximately 85% of our full-time employees are represented by 14 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. Existing agreements remain in effect until new agreements are ratified or until the RLA procedures are exhausted. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The current round of negotiations began on January 1, 2020 related to years 2020-2024. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare.

Inflation – Long periods of inflation significantly increase asset replacement costs for capital-intensive companies. As a result, assuming that we replace all operating assets at current price levels, depreciation charges (on an inflation-adjusted basis) would be substantially greater than historically reported amounts.

Sensitivity Analyses – The sensitivity analyses that follow illustrate the economic effect that hypothetical changes in interest rates could have on our results of operations and financial condition. These hypothetical changes do not consider other factors that could impact actual results.

At December 31, 2019, we had variable-rate debt representing approximately 3.4% of our total debt. If variable interest rates average one percentage point higher in 2020 than our December 31, 2019 variable rate, which was approximately 2.5%, our interest expense would increase by approximately $8.5 million. This amount was determined by considering the impact of the hypothetical interest rate on the balances of our variable-rate debt at December 31, 2019.

Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a hypothetical one percentage point decrease in interest rates as of December 31, 2019, and amounts to an increase of approximately $3.4 billion to the fair value of our debt at December 31, 2019. We estimated the fair values of our fixed-rate debt by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates.

Accounting Pronouncements – See Note 3 to the Consolidated Financial Statements.

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Indemnities – Our maximum potential exposure under indemnification arrangements, including certain tax indemnifications, can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

Climate Change – Although climate change could have an adverse impact on our operations and financial performance in the future (see Risk Factors under Item 1A of this report), we are currently unable to predict the manner or severity of such impact. However, we continue to take steps and explore opportunities to reduce the impact of our operations on the environment, including investments in new technologies, using training programs and technology to reduce fuel consumption, and changing our operations to increase fuel efficiency.

CRITICAL ACCOUNTING POLICIES

Our Consolidated Financial Statements have been prepared in accordance with GAAP. The preparation of these financial statements requires estimation and judgment that affect the reported amounts of revenues, expenses, assets, and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The following critical accounting policies are a subset of our significant accounting policies described in Note 2 to the Financial Statements and Supplementary Data, Item 8. These critical accounting policies affect significant areas of our financial statements and involve judgment and estimates. If these estimates differ significantly from actual results, the impact on our Consolidated Financial Statements may be material.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2019. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $265 million to $289 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions		***2019***		*2018*		*2017*
Beginning balance	**$**	**271**	$	285	$	290
Current year accruals		**78**		74		77
Changes in estimates for prior years		**(11)**		(16)		(7)
Payments		**(73)**		(72)		(75)
Ending balance at December 31	**$**	**265**	$	271	$	285
Current portion, ending balance at December 31	**$**	**63**	$	72	$	66

Our personal injury claims activity was as follows:

	2019	*2018*	*2017*
Open claims, beginning balance	**2,025**	2,090	2,157
New claims	**3,025**	3,188	3,024
Settled or dismissed claims	**(3,065)**	(3,253)	(3,091)
Open claims, ending balance at December 31	**1,985**	2,025	2,090

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2019, and 2018. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 360 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 31 sites that are the subject of actions taken by the U.S. government, 20 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the

remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions		***2019***		*2018*		*2017*
Beginning balance	**$**	**223**	$	196	$	212
Accruals		**67**		84		45
Payments		**(63)**		(57)		(61)
Ending balance at December 31	**$**	**227**	$	223	$	196
Current portion, ending balance at December 31	**$**	**62**	$	59	$	57

Our environmental site activity was as follows:

	2019	*2018*	*2017*
Open sites, beginning balance	**334**	315	292
New sites	**114**	91	77
Closed sites	**(88)**	(72)	(54)
Open sites, ending balance at December 31	**360**	334	315

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enables us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad property by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. Rail in high-density traffic corridors accounts for approximately 70 percent of the historical cost of rail and other track material. Based on the number of gross ton-miles carried over our rail in high density traffic corridors during 2019, the estimated service lives of the majority of this rail ranged from approximately 21 years to approximately 45 years. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Estimated service lives of depreciable railroad property may vary over time due to changes in physical use, technology, asset strategies, and other factors that will have an impact on the retirement profiles of our assets. We are not aware of any specific factors that are reasonably likely to significantly change the estimated service lives of our assets. Actual use and retirement of our assets may vary from our current estimates, which would impact the amount of depreciation expense recognized in future periods.

Changes in estimated useful lives of our assets due to the results of our depreciation studies could significantly impact future periods' depreciation expense and have a material impact on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by approximately $68 million. If the estimated useful lives of all depreciable assets were decreased by one year, annual depreciation expense would increase by approximately $73 million. Our 2019 depreciation studies have resulted in lower depreciation rates for some asset classes. These lower rates will partially offset the impact of a projected higher depreciable asset base, resulting in an increase in total depreciation expense by approximately 2% in 2020 versus 2019.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) it is unusual, (ii) it is material in amount, and (iii) it varies significantly from the retirement profile identified through our depreciation studies. During the last three fiscal years, no gains or losses were recognized due to the retirement of depreciable railroad properties. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

Income Taxes
– We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity. For example, a permanent 1% increase in future income tax rates would increase our deferred tax liability by approximately $507 million. Similarly, a permanent 1% decrease in future income tax rates would decrease our deferred tax liability by approximately $507 million.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2019 and 2018, there were no valuation allowances.
We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Other Postretirement Benefits – We use an actuarial analysis to measure the liabilities and expenses associated with providing pension and medical and life insurance benefits (OPEB) to eligible employees. In order to use actuarial methods to value the liabilities and expenses, we must make several assumptions. The critical assumptions used to measure pension obligations and expenses are the discount rates and expected rate of return on pension assets. For OPEB, the critical assumptions are the discount rates and health care cost trend rate.

We evaluate our critical assumptions at least annually, and selected assumptions are based on the following factors:

- We measure the service cost and interest cost components of our net periodic benefit cost by using individual spot rates matched with separate cash flows for each future year. Discount rates are based on a Mercer yield curve of high quality corporate bonds (rated AA by a recognized rating agency).
- Expected return on plan assets is based on our asset allocation mix and our historical return, taking into consideration current and expected market conditions.
- Health care cost trend rate is based on our historical rates of inflation and expected market conditions.

The following tables present the key assumptions used to measure net periodic pension and OPEB cost/(benefit) for 2020 and the estimated impact on 2020 net periodic pension and OPEB cost/(benefit) relative to a change in those assumptions:

Assumptions	*Pension*	*OPEB*
Discount rate for benefit obligations	3.26%	3.13%
Discount rate for interest on benefit obligations	2.89%	2.68%
Discount rate for service cost	3.42%	3.24%
Discount rate for interest on service cost	3.36%	3.17%
Expected return on plan assets	7.00%	N/A
Compensation increase	4.10%	N/A
Health care cost trend rate:		
Pre-65 current	N/A	5.64%
Pre-65 level in 2038	N/A	4.50%

Sensitivities	*Increase in Expense*	
Millions	*Pension*	*OPEB*
0.25% decrease in discount rates	$ 16	$ -
0.25% increase in compensation scale	$ 8	N/A
0.25% decrease in expected return on plan assets	$ 10	N/A
1% increase in health care cost trend rate	N/A	$ 3

The following table presents the net periodic pension and OPEB cost for the years ended December 31:

Millions	*Est. 2020*	*2019*	*2018*	*2017*
Net periodic pension cost	$ 58	$ 34	$ 71	$ 115

Net periodic OPEB cost	1	10	23	22

CAUTIONARY INFORMATION

Certain statements in this report, and statements in other reports or information filed or to be filed with the SEC (as well as information included in oral statements or other written statements made or to be made by us), are, or will be, forward-looking statements as defined by the Securities Act of 1933 and the Securities Exchange Act of 1934. These forward-looking statements and information include, without limitation, statements in the Chairman's letter preceding Part I; statements regarding planned capital expenditures under the caption "2020 Capital Plan" in Item 2 of Part I; and statements and information set forth under the captions "2020 Outlook"; "Liquidity and Capital Resources" in Item 7 of Part II regarding our capital plan, "Share Repurchase Programs", "Off-Balance Sheet Arrangements, Contractual Obligations, and Commercial Commitments", "Pension and Other Postretirement Benefits", and "Other Matters" in this Item 7 of Part II. Forward-looking statements and information also include any other statements or information in this report (including information incorporated herein by reference) regarding: expectations as to cost savings, revenue growth and earnings; the time by which goals, targets, or objectives will be achieved; projections, predictions, expectations, estimates, or forecasts as to our business, financial and operational results, future economic performance, and general economic conditions; expectations as to operational or service performance or improvements; expectations as to the effectiveness of steps taken or to be taken to improve operations and/or service, including capital expenditures for infrastructure improvements and equipment acquisitions, any strategic business acquisitions, and modifications to our transportation plans, including implementation of PTC; expectations as to existing or proposed new products and services; expectations as to the impact of any new regulatory activities or legislation on our operations or financial results; estimates of costs relating to environmental remediation and restoration; estimates and expectations regarding tax matters; expectations that claims, litigation, environmental costs, commitments, contingent liabilities, labor negotiations or agreements, or other matters will not have a material adverse effect on our consolidated results of operations, financial condition, or liquidity and any other similar expressions concerning matters that are not historical facts. Forward-looking statements may be identified by their use of forward-looking terminology, such as "believes," "expects," "may," "should," "would," "will," "intends," "plans," "estimates," "anticipates," "projects" and similar words, phrases or expressions.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times that, or by which, such performance or results will be achieved. Forward-looking statements and information are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements and information. Forward-looking statements and information reflect the good faith consideration by management of currently available information, and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances over which management has little or no influence or control. The Risk Factors in Item 1A of this report could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in any forward-looking statements or information. To the extent circumstances require or we deem it otherwise necessary, we will update or amend these risk factors in a Form 10-Q, Form 8-K or subsequent Form 10-K. All forward-looking statements are qualified by, and should be read in conjunction with, these Risk Factors.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information concerning market risk sensitive instruments is set forth under Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Matters, Item 7.

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Item 8. Financial Statements and Supplementary Data

Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2019, 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 7, 2020, expressed an unqualified opinion on the Corporation's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 3 to the financial statements, effective January 1, 2019, the Corporation adopted Financial Accounting Standards Board Accounting Standards Update No. 2016-02, *Leases (Topic 842)*.

Basis for Opinion

These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Capitalization of Properties — Refer to Notes 2 and 12 to the financial statements

Critical Audit Matter Description

The Corporation's operations are highly capital intensive and their large network of assets turns over on a continuous basis. Each year, the Corporation develops a capital program for both the replacement of assets and for the acquisition or construction of new assets. In determining whether costs should be capitalized, the Corporation exercises significant judgment in determining whether expenditures meet the applicable minimum units of property criteria and extend the useful life, improve the safety of operations, or improve the operating efficiency of existing assets. The Corporation capitalizes all costs of capital projects necessary to make assets ready for their intended use and because a portion of the Corporation's assets are self-constructed, management also exercises significant judgment in determining the amount of material, labor, work equipment, and indirect costs that qualify for capitalization. Net properties were $53,916 million as of December 31, 2019 and, during 2019, the Corporation's capital investments were $3.5 billion.

We identified the capitalization of property as a critical audit matter because of the significant judgment exercised by management in determining whether costs meet the criteria for capitalization. This, in turn, required a high degree of auditor judgment when performing audit procedures to evaluate whether the criteria to capitalize costs were met and to evaluate sufficiency of audit evidence to support management's conclusions.

How the Critical Audit Matter Was Addressed in the Audit

Our procedures related to capitalization of property included the following, among others:

- We tested the effectiveness of controls over the Corporation's determination of whether costs related to the Corporation's capital program should be capitalized or expensed.

- We evaluated the Corporation's capitalization policy in accordance with accounting principles generally accepted in the United States of America.

- For a selection of capital projects, we performed the following:

  - Obtained the Corporation's evaluation of each project and determined whether the amount of costs to be capitalized met the criteria for capitalization as outlined within the Corporation's policy by unit of property.

  - Obtained supporting documentation that the project met the applicable minimum units of property criteria and was approved, and evaluated whether the project extended the useful life of an existing asset, improved the safety of operations, or improved the operating efficiency of existing assets.

- For a selection of capitalized costs during the year, we performed the following:

  - Evaluated whether the individual cost selected met the criteria for capitalization.

  - Evaluated whether the selection was accurately recorded at the appropriate amount based on the evidence obtained.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 7, 2020

We have served as the Corporation's auditor since 1967.

CONSOLIDATED STATEMENTS OF INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, Except Per Share Amounts, for the Years Ended December 31,		***2019***		*2018*		*2017*
Operating revenues:						
Freight revenues	**$**	**20,243**	$	21,384	$	19,837
Other revenues		**1,465**		1,448		1,403
Total operating revenues		**21,708**		22,832		21,240
Operating expenses:						
Compensation and benefits		**4,533**		5,056		4,939
Purchased services and materials		**2,254**		2,443		2,363
Depreciation		**2,216**		2,191		2,105
Fuel		**2,107**		2,531		1,891
Equipment and other rents		**984**		1,072		888
Other		**1,060**		1,022		948
Total operating expenses		**13,154**		14,315		13,134
Operating income		**8,554**		8,517		8,106
Other income (Note 7)		**243**		94		245
Interest expense		**(1,050)**		(870)		(719)
Income before income taxes		**7,747**		7,741		7,632
Income tax benefit/(expense) (Note 8)		**(1,828)**		(1,775)		3,080
Net income	**$**	**5,919**	$	5,966	$	10,712
Share and Per Share (Note 9):						
Earnings per share - basic	**$**	**8.41**	$	7.95	$	13.42
Earnings per share - diluted	**$**	**8.38**	$	7.91	$	13.36
Weighted average number of shares - basic		**703.5**		750.9		798.4
Weighted average number of shares - diluted		**706.1**		754.3		801.7

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2019***		*2018*		*2017*
Net income	**$**	**5,919**	$	5,966	$	10,712
Other comprehensive income/(loss):						
Defined benefit plans		**42**		62		103
Foreign currency translation		**17**		(36)		28
Total other comprehensive income/(loss) [a]		**59**		26		131
Comprehensive income	**$**	**5,978**	$	5,992	$	10,843

[a] Net of deferred taxes of ($15) million, ($22) million, and ($61) million during 2019, 2018, and 2017, respectively.
The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

Union Pacific Corporation and Subsidiary Companies

Millions, Except Share and Per Share Amounts as of December 31,		***2019***		*2018*
Assets				
Current assets:				
Cash and cash equivalents	**$**	**831**	$	1,273
Short-term investments (Note 14)		**60**		60
Accounts receivable, net (Note 11)		**1,595**		1,755
Materials and supplies		**751**		742
Other current assets		**222**		333
Total current assets		**3,459**		4,163
Investments		**2,050**		1,912
Net properties (Note 12)		**53,916**		52,679
Operating lease assets (Note 17)		**1,812**		-
Other assets		**436**		393
Total assets	**$**	**61,673**	$	59,147
Liabilities and Common Shareholders' Equity				
Current liabilities:				
Accounts payable and other current liabilities (Note 13)	**$**	**3,094**	$	3,160
Debt due within one year (Note 15)		**1,257**		1,466
Total current liabilities		**4,351**		4,626
Debt due after one year (Note 15)		**23,943**		20,925
Operating lease liabilities (Note 17)		**1,471**		-
Deferred income taxes (Note 8)		**11,992**		11,302
Other long-term liabilities		**1,788**		1,871
Commitments and contingencies (Note 18)				
Total liabilities		**43,545**		38,724
Common shareholders' equity:				
Common shares, $2.50 par value, 1,400,000,000 authorized; 1,112,014,480 and 1,111,739,781 issued; 692,100,651 and 725,056,690 outstanding, respectively		**2,780**		2,779
Paid-in-surplus		**4,523**		4,449
Retained earnings		**48,605**		45,284
Treasury stock		**(36,424)**		(30,674)
Accumulated other comprehensive loss (Note 10)		**(1,356)**		(1,415)
Total common shareholders' equity		**18,128**		20,423
Total liabilities and common shareholders' equity	**$**	**61,673**	$	59,147

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2019***		*2018*		*2017*
Operating Activities						
Net income	**$**	**5,919**	$	5,966	$	10,712
Adjustments to reconcile net income to cash provided by operating activities:						
Depreciation		**2,216**		2,191		2,105
Deferred and other income taxes		**566**		338		(5,067)
Net gain on non-operating asset dispositions		**(20)**		(30)		(111)
Other operating activities, net		**98**		347		(282)
Changes in current assets and liabilities:						
Accounts receivable, net		**160**		(262)		(235)
Materials and supplies		**(9)**		7		(32)
Other current assets		**87**		(24)		9
Accounts payable and other current liabilities		**(179)**		(125)		182
Income and other taxes		**(229)**		278		(51)
Cash provided by operating activities		**8,609**		8,686		7,230
Investing Activities						
Capital investments		**(3,453)**		(3,437)		(3,238)
Maturities of short-term investments (Note 14)		**130**		90		90
Purchases of short-term investments (Note 14)		**(115)**		(90)		(120)
Proceeds from asset sales		**74**		63		168
Other investing activities, net		**(71)**		(37)		14
Cash used in investing activities		**(3,435)**		(3,411)		(3,086)
Financing Activities						
Share repurchase programs (Note 19)		**(5,804)**		(8,225)		(4,013)
Debt issued (Note 15)		**3,986**		6,892		2,735
Dividends paid		**(2,598)**		(2,299)		(1,982)
Debt repaid		**(817)**		(1,736)		(840)
Debt exchange		**(387)**		-		-
Net issuance of commercial paper (Note 15)		**(6)**		194		-
Other financing activities, net		**(20)**		(48)		(46)
Cash used in financing activities		**(5,646)**		(5,222)		(4,146)
Net change in cash, cash equivalents and restricted cash		**(472)**		53		(2)
Cash, cash equivalents, and restricted cash at beginning of year		**1,328**		1,275		1,277

Cash, cash equivalents, and restricted cash at end of year	**$**	**856**	$	1,328	$	1,275
Supplemental Cash Flow Information						
Non-cash investing and financing activities:						
Term loan renewals	**$**	**250**	**$**	250	**$**	-
Capital investments accrued but not yet paid		**224**		205		366
Locomotives sold for material credits		**18**		-		-
Finance lease financings		**-**		12		19
Cash paid during the year for:						
Income taxes, net of refunds	**$**	**(1,382)**	$	(1,205)	$	(2,112)
Interest, net of amounts capitalized		**(1,033)**		(728)		(666)

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN COMMON SHAREHOLDERS' EQUITY
Union Pacific Corporation and Subsidiary Companies

Millions	*Common Shares*	*Treasury Shares*	*Common Shares*	*Paid-in-Surplus*	*Retained Earnings*	*Treasury Stock*	*AOCI [a]*	*Total*
Balance at January 1, 2017	1,111.0	(295.2)	$ 2,777	$ 4,421	$ 32,587	$ (18,581)	$ (1,272)	$ 19,932
Net income			-	-	10,712	-	-	10,712
Other comprehensive income			-	-	-	-	131	131
Conversion, stock option exercises, forfeitures, and other	0.4	1.1	1	55	-	20	-	76
Share repurchase programs (Note 19)	-	(36.4)	-	-	-	(4,013)	-	(4,013)
Cash dividends declared ($2.48 per share)	-	-	-	-	(1,982)	-	-	(1,982)
Balance at December 31, 2017	1,111.4	(330.5)	$ 2,778	$ 4,476	$ 41,317	$ (22,574)	$ (1,141)	$ 24,856
Net income			-	-	5,966	-	-	5,966
Other comprehensive income			-	-	-	-	26	26
Conversion, stock option exercises, forfeitures, and other	0.3	1.1	1	65	-	33	-	99
Share repurchase programs (Note 19)	-	(57.2)	-	(92)	-	(8,133)	-	(8,225)
Cash dividends declared ($3.06 per share)	-	-	-	-	(2,299)	-	-	(2,299)
Reclassification due to ASU 2018-02 adoption			-	-	300	-	(300)	-
Balance at December 31, 2018	1,111.7	(386.6)	$ 2,779	$ 4,449	$ 45,284	$ (30,674)	$ (1,415)	$ 20,423
Net income			-	-	5,919	-	-	5,919
Other comprehensive income			-	-	-	-	59	59
Conversion, stock option exercises, forfeitures, and other	0.3	1.7	1	46	-	82	-	129
Share repurchase programs (Note 19)	-	(35.0)	-	28	-	(5,832)	-	(5,804)
Cash dividends declared ($3.70 per share)	-	-	-	-	(2,598)	-	-	(2,598)
Balance at December 31, 2019	**1,112.0**	**(419.9)**	**$ 2,780**	**$ 4,523**	**$ 48,605**	**$ (36,424)**	**$ (1,356)**	**$ 18,128**

[a] AOCI = Accumulated Other Comprehensive Income/(Loss) (Note 10)
The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
Union Pacific Corporation and Subsidiary Companies

For purposes of this report, unless the context otherwise requires, all references herein to the "Corporation", "Company", "UPC", "we", "us", and "our" mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which will be separately referred to herein as "UPRR" or the "Railroad".

1. Nature of Operations

Operations and Segmentation – We are a Class I railroad operating in the U.S. Our network includes 32,340 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and Eastern U.S. gateways and providing several corridors to key Mexican gateways. We own 26,094 miles and operate on the remainder pursuant to trackage rights or leases. We serve the western two-thirds of the country and maintain coordinated schedules with other rail carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide and analyze revenue by commodity group, we treat the financial results of the Railroad as one segment due to the integrated nature of our rail network. Our operating revenues are primarily derived from contracts with customers for the transportation of freight from origin to destination. The following table represents a disaggregation of our freight and other revenues:

Millions		***2019***		*2018*		*2017*
Agricultural Products	**$**	**4,444**	$	4,469	$	4,303
Energy		**3,761**		4,608		4,498
Industrial		**5,796**		5,679		5,204
Premium		**6,242**		6,628		5,832
Total freight revenues	**$**	**20,243**	$	21,384	$	19,837
Other subsidiary revenues		**880**		881		885
Accessorial revenues		**514**		502		458
Other		**71**		65		60
Total operating revenues	**$**	**21,708**	$	22,832	$	21,240

Although our revenues are principally derived from customers domiciled in the U.S., the ultimate points of origination or destination for some products we transport are outside the U.S. Each of our commodity groups includes revenue from shipments to and from Mexico. Included in the above table are freight revenues from our Mexico business which amounted to $2.3 billion in 2019, $2.5 billion in 2018, and $2.3 billion in 2017.

Basis of Presentation – The Consolidated Financial Statements are presented in accordance with accounting principles generally accepted in the U.S. (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

2. Significant Accounting Policies

Principles of Consolidation – The Consolidated Financial Statements include the accounts of Union Pacific Corporation and all of its subsidiaries. Investments in affiliated companies (20% to 50% owned) are accounted for using the equity method of accounting. All intercompany transactions are eliminated. We currently have no less than majority-owned investments that require consolidation under variable interest entity requirements.

Cash, Cash Equivalents and Restricted Cash – Cash equivalents consist of investments with original maturities of three months or less. Amounts included in restricted cash represent those required to be set aside by contractual agreement.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Statements of Financial Position that sum to the total of the same such amounts shown on the Consolidated Statements of Cash Flows:

Millions		***2019***		*2018*		*2017*
Cash and cash equivalents	**$**	**831**	$	1,273	$	1,275
Restricted cash equivalents in other current assets		**13**		42		-
Restricted cash equivalents in other assets		**12**		13		-
Total cash, cash equivalents and restricted cash equivalents shown on the Statement of Cash Flows:	**$**	**856**	$	1,328	$	1,275

Accounts Receivable – Accounts receivable includes receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position.

Investments – Investments represent our investments in affiliated companies (20% to 50% owned) that are accounted for under the equity method of accounting and investments in companies (less than 20% owned) accounted for under the cost method of accounting. Our portion of income/(loss) on equity method investments that are integral to our operations are recorded in operating expenses.

Materials and Supplies – Materials and supplies are carried at the lower of average cost or net realizable value.

Property and Depreciation – Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks), for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. Under the group method of depreciation, no gain or loss is recognized when depreciable property is retired or replaced in the ordinary course of business.

Impairment of Long-lived Assets – We review long-lived assets, including identifiable intangibles, for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of the long-lived assets, the carrying value is reduced to the estimated fair value as measured by the discounted cash flows.

Revenue Recognition – Freight revenues are derived from contracts with customers. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable. Our contracts include private agreements, private rate/letter quotes, public circulars/tariffs, and interline/foreign agreements. The performance obligation in our contracts is typically delivering a specific commodity from a place of origin to a place of destination and our commitment begins with the tendering and acceptance of a freight bill of lading and is satisfied upon delivery at destination. We consider each freight shipment to be a distinct performance obligation.

We recognize freight revenues over time as freight moves from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Outstanding performance obligations related to freight moves in transit totaled $127 million at December 31, 2019 and $123 million at December 31, 2018 and are expected to be recognized in the following quarter as we satisfy our remaining performance obligations and deliver freight to destination. The transaction price is generally specified in a contract and may be dependent on the commodity, origin/destination, and route. Customer incentives, which are primarily provided for shipping to/from specific locations or based on cumulative volumes, are recorded as a reduction to operating revenues. Customer incentives that include variable consideration based on cumulative volumes are estimated using the expected value method, which is based on available historical, current, and forecasted volumes, and recognized as the related performance obligation is satisfied.

Under typical payment terms, our customers pay us after each performance obligation is satisfied and there are no material contract assets or liabilities associated with our freight revenues. Outstanding freight receivables are presented in our Consolidated Statement of Financial Position as Accounts Receivables, net.

Freight revenue related to interline transportation services that involve other railroads are reported on a net basis. The portion of the gross amount billed to customers that is remitted by the Company to another party is not reflected as freight revenue.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Translation of Foreign Currency – Our portion of the assets and liabilities related to foreign investments are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average rates of exchange prevailing during the year. Unrealized gains or losses are reflected within common shareholders' equity as accumulated other comprehensive income or loss.

Fair Value Measurements – We use a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety. These levels include:

Level 1: Quoted market prices in active markets for identical assets or liabilities.
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3: Unobservable inputs that are not corroborated by market data.

We have applied fair value measurements to our short term investments, pension plan assets and short- and long-term debt.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as "retention awards". We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

We measure and recognize compensation expense for all stock-based awards made to employees and directors, including stock options. Compensation expense is based on the fair value of the awards as measured at the grant date and is expensed ratably over the service period of the awards (generally the vesting period). The fair value of retention awards is the closing stock price on the date of grant, while the fair value of stock options is determined by using the Black-Scholes option pricing model.

Earnings Per Share – Basic earnings per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Leases – We lease certain locomotives, freight cars, and other property for use in our rail operations. We determine if an arrangement is or contains a lease at inception. Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments, discounted using our collateralized incremental borrowing rate, over the lease term at commencement date. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Operating leases are included in operating lease assets, accounts payable and other current liabilities, and operating lease liabilities on our Consolidated Statements of Financial Position. Finance leases are included in net properties, debt due within one year, and debt due after one year on our Consolidated Statements of Financial Position. Operating lease expense is recognized on a straight-line basis over the lease term and reported in equipment and other rents and financing lease expense is recorded as depreciation and interest expense in our Consolidated Statements of Income.

We have lease agreements with lease and non-lease components and we have elected to not separate lease and non-lease components for all classes of underlying assets. Leases with an initial term of 12 months or less are not recorded on our Consolidated Statements of Financial Position; Leases with initial terms in excess of 12 months are recorded as operating or financing leases in our Consolidated Statement of Financial Position.

Pension and Postretirement Benefits – We incur certain employment-related expenses associated with pensions and postretirement health benefits. In order to measure the expense associated with these benefits, we must make various assumptions including discount rates used to value certain liabilities, expected return on plan assets used to fund these expenses, compensation increases, employee turnover rates, anticipated mortality rates, and expected future health care costs. The assumptions used by us are based on our historical experience as well as current facts and circumstances. We use an actuarial analysis to measure the expense and liability associated with these benefits.

Personal Injury – The cost of injuries to employees and others on our property is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability. Our personal injury liability is not discounted to present value. Legal fees and incidental costs are expensed as incurred.

Environmental – When environmental issues have been identified with respect to property currently or formerly owned, leased, or otherwise used in the conduct of our business, we perform, with the assistance of our consultants, environmental assessments on such property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. We do not discount our environmental liabilities when the timing of the anticipated cash payments is not fixed or readily determinable. Legal fees and incidental costs are expensed as incurred.

Use of Estimates – The preparation of our Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported assets and liabilities, and the disclosure of certain contingent assets and liabilities as of the date of the consolidated financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual future results may differ from such estimates.

3. Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), *Leases (Topic 842)*. ASU 2016-02 requires companies to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. We implemented an enterprise-wide lease management system to support the new reporting requirements, and effective January 1, 2019, we adopted ASU No. 2016-02, *Leases (Topic 842).* We elected an initial application date of January 1, 2019 and will not recast comparative periods in transition to the new standard. In addition, at the date of adoption, we elected certain practical expedients which permit us to not reassess whether existing contracts are or contain leases, to not reassess the lease classification of any existing leases, to not reassess initial direct costs for any existing leases, and to not separate lease and nonlease components for all classes of underlying assets. Also, at the date of adoption, we elected to keep leases with an initial term of 12 months or less off of the balance sheet for all classes of underlying assets. Adoption of the new standard resulted in an increase in the Company's assets and liabilities of approximately $2 billion. The ASU did not have an impact on our consolidated results of operations or cash flows.

In June 2016, the FASB issued Accounting Standards Update No. 2016-13 (ASU 2016-13), *Measurement of Credit Losses on Financial Instruments,* which replaces the existing incurred credit loss model for an expected credit loss model. Effective January 1, 2020, the Company adopted ASU 2016-13 and it did not have a material impact on our consolidated financial position, results of operations, or cash flows.

In August 2018, the FASB issued Accounting Standards Update No. 2018-14 (ASU 2018-14), *Changes to the Disclosure Requirements for Defined Benefit Plans,* which modifies the disclosure requirements for employers that sponsor defined benefit pension and other postretirement plans. The ASU is effective for the Company beginning January 1, 2021, and early adoption is permitted. Adoption of the standard is not expected to have a material impact on the Company's consolidated financial statement disclosure requirements.

4. Workforce Reduction Plans

Throughout 2019, we continued to implement initiatives to better align our management structure and decision making process in conjunction with the Company's operating model. As such, we reduced our management workforce by approximately 540 employees in 2019.

On October 23, 2018, we announced the elimination of one operating region and five service units as part of a broader effort to more closely align operating resources with the Company's long term strategic initiatives. This resulted in the reduction of approximately 330 management employees in the fourth quarter of 2018. In addition, approximately 140 agreement positions were reduced as part of ongoing initiatives.

On August 16, 2017, the Company approved and commenced a management and administrative personnel reorganization plan (the "Plan") furthering its on-going efforts to increase efficiency and more effectively align Company resources. The Plan implemented productivity initiatives identified during a Company-wide organizational review that included the reduction of approximately 460 management positions and 250 agreement positions during the third and fourth quarters of 2017.

These workforce reductions resulted in pretax charges recognized within compensation and benefits expense and other income in our Consolidated Statements of Income. The charges consisted of management employee termination benefits, including pension expenses, severance costs, and acceleration of equity compensation expense as shown in the following table:

Millions for the Years Ended December 31,		***2019***		*2018*		*2017*
Compensation and benefits expense						
Severance	**$**	**22**	$	23	$	12
Equity compensation		**2**		2		5
Other income						
Pension		**-**		-		69
Total expense	**$**	**24**	$	25	$	86

The 2017 workforce reduction plan included an enhanced pension benefit which resulted in a curtailment loss of $20 million and a special termination benefit of $49 million as a result of a remeasurement as of September 30, 2017. In accordance with ASU 2017-07, both of these charges were recorded within other income.

We continue to analyze the Company's cost structure and evaluate other restructuring and cost reduction opportunities that will further align with the Company's long-term strategic priorities.

5. Stock Options and Other Stock Plans

In April 2000, the shareholders approved the Union Pacific Corporation 2000 Directors Plan (Directors Plan) whereby 2,200,000 shares of our common stock were reserved for issuance to our non-employee directors. Under the Directors Plan, each non-employee director, upon his or her initial election to the Board of

Directors, received a grant of 4,000 retention shares or retention stock units. In July 2018, the Board of Directors eliminated the retention grant for directors newly elected in 2018 and all future years. As of December 31, 2019, 36,000 restricted shares were outstanding under the Directors Plan.

The Union Pacific Corporation 2004 Stock Incentive Plan (2004 Plan) was approved by shareholders in April 2004. The 2004 Plan reserved 84,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans that were outstanding on April 16, 2004, and became available for regrant pursuant to the terms of the 2004 Plan. Under the 2004 Plan, non-qualified options, stock appreciation rights, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2004 Plan. As of December 31, 2019, 231,807 options were outstanding under the 2004 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2013 Stock Incentive Plan (2013 Plan) was approved by shareholders in May 2013. The 2013 Plan reserved 78,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of February 28, 2013, that are subsequently cancelled, expired, forfeited or otherwise not issued under previous plans. Under the 2013 Plan, non-qualified options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2013 Plan. As of December 31, 2019, 3,269,780 options and 2,671,584 retention shares and stock units were outstanding under the 2013 Plan.

Pursuant to the above plans 70,318,887; 70,730,692; and 72,151,415; shares of our common stock were authorized and available for grant at December 31, 2019, 2018, and 2017, respectively.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as “retention awards”. We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

Information regarding stock-based compensation appears in the table below:

Millions		***2019***		*2018*		*2017*
Stock-based compensation, before tax:						
Stock options	**$**	**16**	$	17	$	19
Retention awards		**77**		79		84
Total stock-based compensation, before tax	**$**	**93**	$	96	$	103
Excess tax benefits from equity compensation plans	**$**	**52**	$	28	$	44

Stock Options – We estimate the fair value of our stock option awards using the Black-Scholes option pricing model. The table below shows the annual weighted-average assumptions used for valuation purposes:

Weighted-Average Assumptions		***2019***		*2018*		*2017*
Risk-free interest rate		**2.5%**		2.6%		2.0%
Dividend yield		**2.2%**		2.3%		2.3%
Expected life (years)		**5.2**		5.3		5.3
Volatility		**22.7%**		21.1%		21.7%
Weighted-average grant-date fair value of options granted	**$**	**30.37**	$	21.70	$	18.19

The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant; the expected dividend yield is calculated as the ratio of dividends paid per share of common stock to the stock price on the date of grant; the expected life is based on historical and expected exercise behavior; and expected volatility is based on the historical volatility of our stock price over the expected life of the option.

A summary of stock option activity during 2019 is presented below:

	Options (thous.)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value (millions)
Outstanding at January 1, 2019	5,170	$ 92.06	5.4 yrs.	$ 239
Granted	573	160.84	N/A	N/A
Exercised	(2,118)	73.63	N/A	N/A
Forfeited or expired	(123)	122.73	N/A	N/A
Outstanding at December 31, 2019	3,502	$ 113.38	6.1 yrs.	$ 236
Vested or expected to vest at December 31, 2019	3,464	$ 113.10	6.1 yrs.	$ 234
Options exercisable at December 31, 2019	2,257	$ 100.42	5.0 yrs.	$ 181

Stock options are granted at the closing price on the date of grant, have 10 year contractual terms, and vest no later than 3 years from the date of grant. None of the stock options outstanding at December 31, 2019, are subject to performance or market-based vesting conditions.

At December 31, 2019, there was $16 million of unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted-average period of 0.9 years. Additional information regarding stock option exercises appears in the following table:

Millions		***2019***		*2018*		*2017*
Intrinsic value of stock options exercised	$	**193**	$	83	$	88
Cash received from option exercises		**130**		76		59
Treasury shares repurchased for employee payroll taxes		**(37)**		(20)		(18)
Tax benefit realized from option exercises		**48**		21		34
Aggregate grant-date fair value of stock options vested		**15**		19		20

Retention Awards – The fair value of retention awards is based on the closing price of the stock on the grant date. Dividends and dividend equivalents are paid to participants during the vesting periods.

Changes in our retention awards during 2019 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2019	2,070	$ 104.55
Granted	384	161.79
Vested	(451)	119.66
Forfeited	(105)	112.09
Nonvested at December 31, 2019	1,898	$ 112.12

Retention awards are granted at no cost to the employee or non-employee director and vest over periods lasting up to 4 years. At December 31, 2019, there was $90 million of total unrecognized compensation expense related to nonvested retention awards, which is expected to be recognized over a weighted-average period of 1.4 years.

Performance Retention Awards – In February 2019, our Board of Directors approved performance stock unit grants. The basic terms of these performance stock units are identical to those granted in February 2018, except for different annual return on invested capital (ROIC) performance targets. The plan also includes relative operating income growth (OIG) as a modifier compared to the companies included in the S&P 500 Industrials Index. We define ROIC as net operating profit adjusted for interest expense (including interest on average operating lease liabilities) and taxes on interest divided by average invested capital adjusted for average operating lease liabilities. The modifier can be up to +/-25% of the award earned based on the ROIC achieved.

Stock units awarded to selected employees under these grants are subject to continued employment for 37 months and the attainment of certain levels of ROIC, modified for the relative OIG. We expense the fair value of the units that are probable of being earned based on our forecasted ROIC over the 3-year performance period, and with respect to the third year of the plan, the relative OIG modifier. We measure the fair value of these performance stock units based upon the closing price of the underlying common stock as of the date of grant, reduced by the present value of estimated future dividends. Dividend equivalents are paid to participants only after the units are earned.

The assumptions used to calculate the present value of estimated future dividends related to the February 2019 grant were as follows:

		2019
Dividend per share per quarter	$	0.88
Risk-free interest rate at date of grant		2.5%

Changes in our performance retention awards during 2019 were as follows:

	Shares (thous.)		*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2019	1,092	$	95.12
Granted	324		151.24
Vested	(269)		70.87
Unearned	(127)		70.09
Forfeited	(91)		113.67
Nonvested at December 31, 2019	929	$	123.32

At December 31, 2019, there was $24 million of total unrecognized compensation expense related to nonvested performance retention awards, which is expected to be recognized over a weighted-average period of 0.8 years. This expense is subject to achievement of the performance measures established for the performance stock unit grants.

6. Retirement Plans

Pension and Other Postretirement Benefits

Pension Plans – We provide defined benefit retirement income to eligible non-union employees through qualified and non-qualified (supplemental) pension plans. Qualified and non-qualified pension benefits are based on years of service and the highest compensation during the latest years of employment, with specific reductions made for early retirements. Non-union employees hired on or after January 1, 2018 are no longer eligible for pension benefits, but are eligible for an enhanced 401(k) benefit as described below in other retirement programs.

Other Postretirement Benefits (OPEB) – We provide medical and life insurance benefits for eligible retirees hired before January 1, 2004. These benefits are funded as medical claims and life insurance premiums are paid.

Funded Status

We are required by GAAP to separately recognize the overfunded or underfunded status of our pension and OPEB plans as an asset or liability. The funded status represents the difference between the projected benefit obligation (PBO) and the fair value of the plan assets. Our non-qualified (supplemental) pension plan is unfunded by design. The PBO of the pension plans is the present value of benefits earned to date by plan participants, including the effect of assumed future compensation increases. The PBO of the OPEB plan is equal to the accumulated benefit obligation, as the present value of the OPEB liabilities is not affected by compensation increases. Plan assets are measured at fair value. We use a December 31 measurement date for plan assets and obligations for all our retirement plans.

Changes in our PBO and plan assets were as follows for the years ended December 31:

Funded Status	*Pension*				*OPEB*			
Millions		***2019***		*2018*		***2019***		*2018*
Projected Benefit Obligation								
Projected benefit obligation at beginning of year	**$**	**4,181**	$	4,529	**$**	**298**	$	330
Service cost		**80**		105		**1**		2
Interest cost		**160**		145		**9**		10
Plan amendment		**-**		-		**(92)**		-
Actuarial (gain)/loss		**656**		(371)		**11**		(20)
Gross benefits paid		**(230)**		(227)		**(22)**		(24)
Projected benefit obligation at end of year	**$**	**4,847**	$	4,181	**$**	**205**	$	298
Plan Assets								
Fair value of plan assets at beginning of year	**$**	**3,887**	$	4,224	**$**	**-**	$	-
Actual (loss)/return on plan assets		**841**		(139)		**-**		-
Non-qualified plan benefit contributions		**30**		29		**22**		24
Gross benefits paid		**(230)**		(227)		**(22)**		(24)
Fair value of plan assets at end of year	**$**	**4,528**	$	3,887	**$**	**-**	$	-
Funded status at end of year	**$**	**(319)**	$	(294)	**$**	**(205)**	$	(298)

Amounts recognized in the statement of financial position as of December 31, 2019, and 2018 consist of:

	Pension				*OPEB*			
Millions		***2019***		*2018*		***2019***		*2018*
Noncurrent assets	**$**	**203**	$	172	**$**	**-**	$	-
Current liabilities		**(29)**		(28)		**(20)**		(22)
Noncurrent liabilities		**(493)**		(438)		**(185)**		(276)
Net amounts recognized at end of year	**$**	**(319)**	$	(294)	**$**	**(205)**	$	(298)

Pre-tax amounts recognized in accumulated other comprehensive income/(loss) as of December 31, 2019, and 2018 consist of:

	2019						*2018*					
Millions		***Pension***		***OPEB***		***Total***		*Pension*		*OPEB*		*Total*
Prior service cost	**$**	**-**	**$**	**95**	**$**	**95**	$	-	$	-	$	-
Net actuarial loss		**(1,501)**		**(104)**		**(1,605)**		(1,480)		(90)		(1,570)
Total	**$**	**(1,501)**	**$**	**(9)**	**$**	**(1,510)**	$	(1,480)	$	(90)	$	(1,570)

Pre-tax changes recognized in other comprehensive income/(loss) during 2019, 2018, and 2017 were as follows:

	Pension						*OPEB*					
Millions		***2019***		*2018*		*2017*		***2019***		*2018*		*2017*
Prior service credit	**$**	**-**	$	-	$	-	**$**	**92**	$	-	$	-

Net actuarial (loss)/gain	**(88)**	(40)	67	**(11)**	20	(6)
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**(7)**	1	1
Actuarial loss	**67**	93	81	**7**	10	9
Total	**$(21)**	$ 53	$148	**$ 81**	$ 31	$ 4

Amounts included in accumulated other comprehensive income/(loss) expected to be amortized into net periodic cost during 2020:

Millions		*Pension*		*OPEB*		*Total*
Prior service credit	$	-	$	14	$	14
Net actuarial loss		(99)		(9)		(108)
Total	$	(99)	$	5	$	(94)

Underfunded Accumulated Benefit Obligation – The accumulated benefit obligation (ABO) is the present value of benefits earned to date, assuming no future compensation growth. The underfunded accumulated benefit obligation represents the difference between the ABO and the fair value of plan assets.

The following table discloses only the PBO, ABO and fair value of plan assets for pension plans where the accumulated benefit obligation is in excess of the fair value of the plan assets as of December 31:

Underfunded Accumulated Benefit Obligation *Millions*		***2019***		*2018*
Projected benefit obligation	**$**	**522**	$	465
Accumulated benefit obligation	**$**	**498**	$	446
Fair value of plan assets		**-**		-
Underfunded accumulated benefit obligation	**$**	**(498)**	$	(446)

The ABO for all defined benefit pension plans was $4.5 billion and $3.9 billion at December 31, 2019, and 2018, respectively.

Assumptions – The weighted-average actuarial assumptions used to determine benefit obligations at December 31:

	Pension		*OPEB*	
Percentages	***2019***	*2018*	***2019***	*2018*
Discount rate	**3.26%**	4.23%	**3.13%**	4.17%
Compensation increase	**4.10%**	4.19%	**N/A**	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	**5.64%**	5.87%
Ultimate health care cost trend rate	**N/A**	N/A	**4.50%**	4.50%
Year ultimate trend rate reached	**N/A**	N/A	**2038**	2038

Expense

Both pension and OPEB expense are determined based upon the annual service cost of benefits (the actuarial cost of benefits earned during a period) and the interest cost on those liabilities, less the expected return on plan assets. The expected long-term rate of return on plan assets is applied to a calculated value of plan assets that recognizes changes in fair value over a 5 year period. This practice is intended to reduce year-to-year volatility in pension expense, but it can have the effect of delaying the recognition of differences between actual returns on assets and expected returns based on long-term rate of return assumptions. Differences in actual experience in relation to assumptions are not recognized in net income immediately, but are deferred in accumulated other comprehensive income and, if necessary, amortized as pension or OPEB expense.

On June 30, 2019, the OPEB plan was remeasured to reflect an announced plan amendment effective January 1, 2020 that reduced and eliminated certain medical benefits for Medicare-eligible retirees. This negative plan amendment resulted in a reduction in the accumulated postretirement benefit obligation of approximately $92 million with a corresponding adjustment of $69 million in other comprehensive income, net of $23 million in deferred taxes. This amount is being amortized as a reduction of future net periodic OPEB cost over approximately 8 years, which represents the future remaining service period of eligible employees.

The workforce reduction plan initiated in the third quarter of 2017 included a curtailment loss of $20 million and a special termination benefit of $49 million as a result of a remeasurement as of September 30, 2017, due to the eliminated future service for approximately 460 management employees.

The components of our net periodic pension and OPEB cost were as follows for the years ended December 31:

	Pension			OPEB		
Millions	***2019***	*2018*	*2017*	***2019***	*2018*	*2017*
Net Periodic Benefit Cost:						
Service cost	**$ 80**	$ 105	$ 90	**$ 1**	$ 2	$ 2
Interest cost	**160**	145	142	**9**	10	10
Expected return on plan assets	**(273)**	(272)	(267)	**-**	-	-
Plan curtailment cost	**-**	-	20	**-**	-	-
Special termination cost	**-**	-	49	**-**	-	-
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**(7)**	1	1
Actuarial loss	**67**	93	81	**7**	10	9
Net periodic benefit cost	**$ 34**	$ 71	$ 115	**$ 10**	$ 23	$ 22

Assumptions – The weighted-average actuarial assumptions used to determine expense were as follows:

	Pension			OPEB		
Percentages	***2019***	*2018*	*2017*	***2019***	*2018*	*2017*
Discount rate for benefit obligations	**4.23%**	3.62%	4.09%	**3.79%**	3.54%	3.89%
Discount rate for interest on benefit obligations	**3.94%**	3.27%	3.47%	**3.40%**	3.14%	3.25%
Discount rate for service cost	**4.33%**	3.77%	4.41%	**3.92%**	3.71%	4.25%
Discount rate for interest on service cost	**4.30%**	3.72%	4.27%	**3.85%**	3.64%	4.11%
Expected return on plan assets	**7.00%**	7.00%	7.00%	**N/A**	N/A	N/A
Compensation increase	**4.10%**	4.19%	4.13%	**N/A**	N/A	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	N/A	**5.87%**	6.09%	6.31%
Ultimate health care cost trend rate	**N/A**	N/A	N/A	**4.50%**	4.50%	4.50%
Year ultimate trend reached	**N/A**	N/A	N/A	**2038**	2038	2038

We measure the service cost and interest cost components of our net periodic benefit cost by using individual spot discount rates matched with separate cash flows for each future year. The discount rates were based on a yield curve of high quality corporate bonds. The expected return on plan assets is based on our asset allocation mix and our historical return, taking into account current and expected market conditions. The actual return/(loss) on pension plan assets, net of fees, was approximately 20% in 2019, (2)% in 2018, and 19% in 2017.

Assumed health care cost trend rates have an effect on the expense and liabilities reported for health care plans. The assumed health care cost trend rate is based on historical rates and expected market conditions. The 2020 assumed health care cost trend rate for employees under 65 is 5.64%. It is assumed the rate will decrease gradually to an ultimate rate of 4.5% in 2038 and will remain at that level.

Cash Contributions

The following table details cash contributions, if any, for the qualified pension plans and the benefit payments for the non-qualified (supplemental) pension and OPEB plans:

	Pension		
Millions	*Qualified*	*Non-qualified*	*OPEB*
2019	$ -	$ 30	$ 22
2018	-	29	24

Our policy with respect to funding the qualified plans is to fund at least the minimum required by law and not more than the maximum amount deductible for tax purposes.

The non-qualified pension and OPEB plans are not funded and are not subject to any minimum regulatory funding requirements. Benefit payments for each year represent supplemental pension payments and claims paid for medical and life insurance. We anticipate our 2020 supplemental pension and OPEB payments will be made from cash generated from operations.

Benefit Payments

The following table details expected benefit payments for the years 2020 through 2029:

Millions	*Pension*	*OPEB*
2020	$ 224	$ 20
2021	221	19
2022	220	15
2023	219	15
2024	220	10
Years 2025 - 2029	1,119	45

Asset Allocation Strategy

Our pension plan asset allocation at December 31, 2019, and 2018, and target allocation for 2020, are as follows:

		Percentage of Plan Assets December 31,	
	Target Allocation 2020	***2019***	*2018*
Equity securities	60% to 70%	**63%**	56%
Debt securities	25% to 35%	**31**	36
Real estate	2% to 8%	**6**	6
Commodities	N/A	**-**	2
Total		**100%**	100%

The investment strategy for pension plan assets is to maintain a broadly diversified portfolio designed to achieve our target average long-term rate of return of 7.0%. While we believe we can achieve a long-term average rate of return of 7.0%, we cannot be certain that the portfolio will perform to our expectations. Assets are strategically allocated among equity, debt, and other investments in order to achieve a diversification level that reduces fluctuations in investment returns. Asset allocation target ranges for equity, debt, and other portfolios are evaluated at least every three years with the assistance of an independent consulting firm. Actual asset allocations are monitored monthly, and rebalancing actions are executed at least quarterly, as needed.

The pension plan investments are held in a Master Trust. The majority of pension plan assets are invested in equity securities because equity portfolios have historically provided higher returns than debt and other asset classes over extended time horizons and are expected to do so in the future. Correspondingly, equity investments also entail greater risks than other investments. Equity risks are balanced by investing a significant portion of the plans' assets in high quality debt securities. The average credit rating of the debt portfolio exceeded A at both December 31, 2019 and December 31, 2018. The debt portfolio is also broadly diversified and invested primarily in U.S. Treasury, mortgage, and corporate securities. The weighted-average maturity of the debt portfolio was 14 years and 13 years, respectively at December 31, 2019, and 2018.

The investment of pension plan assets in securities issued by UPC is explicitly prohibited by the plan for both the equity and debt portfolios, other than through index fund holdings.

Fair Value Measurements

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Temporary Cash Investments – These investments consist of U.S. dollars, foreign currencies, and commercial paper held in master trust accounts at The Northern Trust Company (the Trustee). Foreign currencies held are reported in terms of U.S. dollars based on currency exchange rates readily available in active markets. U.S. dollars and foreign currencies are classified as Level 1 investments. Commercial paper assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Commercial paper is classified as Level 2 investments.

Registered Investment Companies – Registered Investment Companies are entities primarily engaged in the business of investing in securities and are registered with the Securities and Exchange Commission. The Plan's holdings of Registered Investment Companies include both public and private fund vehicles. The public vehicles are exchange-traded funds (stocks), which are classified as Level 1 investments. The private vehicles (bonds) do not have published pricing and are valued using Net Asset Value (NAV).

Federal Government Securities – Federal Government Securities consist of bills, notes, bonds, and other fixed income securities issued directly by the U.S. Treasury or by government-sponsored enterprises. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Federal Government Securities are classified as Level 2 investments.

Bonds and Debentures – Bonds and debentures consist of debt securities issued by U.S. and non-U.S. corporations as well as state and local governments. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Corporate, state, and municipal bonds and debentures are classified as Level 2 investments.

Corporate Stock – This investment category consists of common and preferred stock issued by U.S. and non-U.S. corporations. Most common shares are traded actively on exchanges and price quotes for these shares are readily available. Common stock is classified as a Level 1 investment. Preferred shares included in this category are valued using a bid evaluation process with bid data provided by independent pricing sources. Preferred stock is classified as a Level 2 investment.

Venture Capital and Buyout Partnerships – This investment category is comprised of interests in limited partnerships that invest primarily in privately-held companies. Due to the private nature of the partnership investments, pricing inputs are not readily observable. Asset valuations are developed by the general partners that manage the partnerships. These valuations are based on the application of public market multiples to private company cash flows, market transactions that provide valuation information for comparable companies, and other methods. The fair value recorded by the Plan is calculated using each partnership's NAV.

Real Estate Funds – Most of the Plan's real estate investments are primarily interests in private real estate investment trusts, partnerships, limited liability companies, and similar structures. Valuations for the holdings in this category are not based on readily observable inputs and are primarily derived from property appraisals. The fair value recorded by the Plan is calculated using the NAV for each investment.

Collective Trust and Other Funds – Collective trust and other funds are comprised of shares or units in commingled funds and limited liability companies that are not publicly traded. The underlying assets in these entities (U.S. stock funds, non-U.S. stock funds, commodity funds, hedge funds, and short term investment funds) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. The fair value recorded by the Plan is calculated using NAV for each investment.

As of December 31, 2019, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions		*Quoted Prices in Active Markets for Identical Inputs (Level 1)*		*Significant Other Observable Inputs (Level 2)*		*Significant Unobservable Inputs (Level 3)*		*Total*
Plan assets at fair value:								
Temporary cash investments	$	6	$	1	$	-	$	7
Registered investment companies [a]		9		-		-		9
Federal government securities		-		202		-		202
Bonds and debentures		-		575		-		575
Corporate stock		1,932		7		-		1,939
Total plan assets at fair value	$	1,947	$	785	$	-	$	2,732
Plan assets at NAV:								
Registered investment companies [b]								285
Venture capital and buyout partnerships								531
Real estate funds								261
Collective trust and other funds								707
Total plan assets at NAV							$	1,784
Other assets/ (liabilities) [c]								12
Total plan assets							$	4,528

As of December 31, 2018, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions		*Quoted Prices in Active Markets for Identical Inputs (Level 1)*		*Significant Other Observable Inputs (Level 2)*		*Significant Unobservable Inputs (Level 3)*		*Total*
Plan assets at fair value:								
Temporary cash investments	$	21	$	-	$	-	$	21
Registered investment companies [a]		1		-		-		1
Federal government securities		-		191		-		191
		-		538		-		538

Bonds and debentures				
Corporate stock	1,355	12	-	1,367
Total plan assets at fair value	$ 1,377	$ 741	$ -	$ 2,118
Plan assets at NAV:				
Registered investment companies [b]				378
Venture capital and buyout partnerships				443
Real estate funds				222
Collective trust and other funds				745
Total plan assets at NAV				$ 1,788
Other assets/ (liabilities) [c]				(19)
Total plan assets				$ 3,887

[a] Registered investment companies measured at fair value are stock investments.
[b] Registered investment companies measured at NAV include bond investments.
[c] Other assets include accrued receivables, net payables, and pending broker settlements.

For the years ended December 31, 2019 and 2018, significant transfers in or out of Levels 1, 2, or 3 totaled $0.

The Master Trust's investments in limited partnerships and similar structures (used to invest in private equity and real estate) are valued at fair value based on their proportionate share of the partnerships' fair value as recorded in the limited partnerships' audited financial statements. The limited partnerships allocate gains, losses and expenses to the partners based on the ownership percentage as described in the partnership agreements. At December 31, 2019 and 2018, the Master Trust had future commitments for additional contributions to private equity partnerships totaling $189 million and $248 million, respectively, and to real estate partnerships and funds totaling $8 million and $54 million, respectively.

Other Retirement Programs

401(k)/Thrift Plan – For non-union employees hired prior to January 1, 2018, and eligible union employees for whom we make matching contributions, we provide a defined contribution plan (401(k)/ thrift plan). We match 50% for each dollar contributed by employees up to the first 6% of compensation contributed. For non-union employees hired on or after January 1, 2018, we match 100% for each dollar, up to the first 6% of compensation contributed, in addition to contributing an annual amount of 3% of the employee's annual base salary. Our plan contributions were $20 million in 2019, $18 million in 2018, and $19 million in 2017.

Railroad Retirement System – All Railroad employees are covered by the Railroad Retirement System (the System). Contributions made to the System are expensed as incurred and amounted to approximately $654 million in 2019, $710 million in 2018, and $672 million in 2017.

Collective Bargaining Agreements – Under collective bargaining agreements, we participate in multi-employer benefit plans that provide certain postretirement health care and life insurance benefits for eligible union employees. Premiums paid under these plans are expensed as incurred and amounted to $42 million in 2019, $50 million in 2018, and $60 million in 2017.

7. Other Income

Other income included the following for the years ended December 31:

Millions		***2019***		*2018*		*2017*
Rental income [a]	**$**	**124**	$	122	$	178
Net periodic pension and OPEB costs		**37**		13		(45)
Interest income		**32**		30		16
Interest income on employment tax refund		**31**		-		-
Net gain on non-operating asset dispositions [b]		**20**		30		111
Early extinguishment of debt [c]		**(2)**		(85)		-
Non-operating environmental costs and other		**1**		(16)		(15)
Total	**$**	**243**	$	94	$	245

[a] 2017 includes $65 million related to a favorable litigation settlement in the third quarter.
[b] 2017 includes $26 million and $57 million related to a real estate sale in the first quarter and in the third quarter, respectively.
[c] 2019 includes a debt extinguishment charge for the early redemption of certain notes in the fourth quarter. 2018 includes a debt extinguishment charge for the early redemption of certain bonds and debentures in the first quarter (Note 15).

8. Income Taxes

Components of income tax expense were as follows for the years ended December 31:

Millions		***2019***		*2018*		*2017*
Current tax expense:						
Federal	**$**	**1,000**	$	1,144	$	1,750
State		**254**		287		235
Foreign		**8**		5		2
Total current tax expense		**1,262**		1,436		1,987
Deferred and other tax expense:						
Federal		**417**		344		(5,260)
State		**128**		5		183
Foreign		**21**		(10)		10
Total deferred and other tax expense/(benefit) [a]		**566**		339		(5,067)
Total income tax expense/(benefit)	**$**	**1,828**	$	1,775	$	(3,080)

[a] 2017 includes a ($5,935) million adjustment to income tax expense resulting from the Tax Cuts and Jobs Act. Of this amount, ($5,965) million is a federal income tax benefit and $30 million is state income tax expense.

For the years ended December 31, reconciliations between statutory and effective tax rates are as follows:

Tax Rate Percentages	***2019***	*2018*	*2017*
Federal statutory tax rate	**21.0 %**	21.0 %	35.0 %
State statutory rates, net of federal benefits	**3.7**	3.9	3.1
Adjustment for Tax Cuts and Jobs Act	**-**	-	(77.8)
Excess tax benefits from equity compensation plans	**(0.7)**	(0.4)	(0.6)
Other deferred tax adjustments	**(0.1)**	(0.6)	0.4
Other	**(0.3)**	(1.0)	(0.5)
Effective tax rate	**23.6 %**	22.9 %	(40.4)%

Deferred tax assets and liabilities are recorded for the expected future tax consequences of events that are reported in different periods for financial reporting and income tax purposes. The majority of our deferred tax assets relate to deductions that already have been claimed for financial reporting purposes but not for tax purposes. The majority of our deferred tax liabilities relate to differences between the tax bases and financial reporting amounts of our land and depreciable property, due to accelerated tax depreciation (including bonus depreciation), revaluation of assets in purchase accounting transactions, and differences in capitalization methods.

On December 22, 2017, The Tax Cuts and Jobs Act (the Tax Act) was enacted. The Tax Act made significant changes to federal tax law, including a reduction in the federal income tax rate from 35% to 21% effective January 1, 2018, 100% bonus depreciation for certain capital expenditures, stricter limits on deductions for interest and certain executive compensation, and a one-time transition tax on previously deferred earnings of certain foreign subsidiaries. As a result of our initial analysis of the Tax Act and existing implementation guidance, we remeasured our deferred tax assets and liabilities and computed our transition tax liability net of offsetting foreign tax credits. This resulted in a $5.9 billion reduction in our income tax expense in the fourth quarter of 2017. We also recorded a $212 million reduction to our operating expense related to income tax adjustments at equity-method affiliates in the fourth quarter of 2017.

In the second quarter of 2019, Arkansas enacted legislation to reduce their corporate income tax rate for future years resulting in a $21 million reduction of our deferred tax expense.

In the second quarter of 2018, Iowa and Missouri enacted legislation to reduce their corporate tax rates for future years resulting in a $31 million reduction of our deferred tax expense.

In the third quarter of 2017, Illinois enacted legislation to increase their corporate tax rate for future years resulting in a $33 million increase of our deferred tax expense.

Deferred income tax (liabilities)/assets were comprised of the following at December 31:

Millions		***2019***		*2018*
Deferred income tax liabilities:				
Property	**$**	**(12,184)**	$	(11,590)
Other		**(341)**		(213)
Total deferred income tax liabilities		**(12,525)**		(11,803)
Deferred income tax assets:				
Accrued wages		**45**		46
Accrued casualty costs		**146**		148
Stock compensation		**37**		44
Retiree benefits		**171**		138
Other		**134**		125
Total deferred income tax assets		**533**		501
Net deferred income tax liability	**$**	**(11,992)**	$	(11,302)

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2019 and 2018, there were no valuation allowances.

Tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

A reconciliation of changes in unrecognized tax benefits liabilities/(assets) from the beginning to the end of the reporting period is as follows:

Millions		***2019***		*2018*		*2017*
Unrecognized tax benefits at January 1	**$**	**174**	$	179	$	125
Increases for positions taken in current year		**20**		30		38
Increases for positions taken in prior years		**44**		9		51
Decreases for positions taken in prior years		**(96)**		(30)		(56)
Refunds from/ (payments to) and settlements with taxing authorities		**(11)**		21		64
Increases/ (decreases) for interest and penalties		**(5)**		4		-
Lapse of statutes of limitations		**(62)**		(39)		(43)
Unrecognized tax benefits at December 31	**$**	**64**	$	174	$	179

We recognize interest and penalties as part of income tax expense. Total accrued liabilities for interest and penalties were $3 million and $8 million at December 31, 2019, and 2018, respectively. Total interest and penalties recognized as part of income tax expense (benefit) were ($4) million for 2019, ($1) million for 2018, and ($3) million for 2017.

In the second quarter of 2019, UPC signed final Revenue Agent Reports (RARs) from the Internal Revenue Service (IRS) for the limited scope audits of UPC's 2016 and 2017 tax returns. As a result of the signed RARs, UPC paid the IRS $11 million in the third quarter, consisting of $10 million of tax and $1 million of interest. The statute of limitations has run for all years prior to 2016.

In 2017, UPC amended its 2013 income tax return, primarily to claim deductions resulting from the resolution of prior year IRS examinations. The IRS and Joint Committee on Taxation have completed their review of the 2013 return, and in the second quarter of 2018 we received a refund of $19 million.

In 2016, UPC amended its 2011 and 2012 income tax returns to claim deductions resulting from the resolution of IRS examinations for years prior to 2011. The IRS and Joint Committee on Taxation reviewed these amended returns. In the third quarter of 2017, we received a refund of $62 million, consisting of $60 million of tax and $2 million of interest.

Several state tax authorities are examining our state income tax returns for years 2015 through 2017.

We do not expect our unrecognized tax benefits to change significantly in the next 12 months.

The portion of our unrecognized tax benefits that relates to permanent changes in tax and interest would reduce our effective tax rate, if recognized. The remaining unrecognized tax benefits relate to tax positions for which only the timing of the benefit is uncertain. Recognition of the tax benefits with uncertain timing would reduce our effective tax rate only through a reduction of accrued interest and penalties. The unrecognized tax benefits that would reduce our effective tax rate are as follows:

Millions		***2019***		*2018*		*2017*
Unrecognized tax benefits that would reduce the effective tax rate	**$**	**39**	$	63	$	83
Unrecognized tax benefits that would not reduce the effective tax rate		**25**		111		96
Total unrecognized tax benefits	**$**	**64**	$	174	$	179

9. Earnings Per Share

The following table provides a reconciliation between basic and diluted earnings per share for the years ended December 31:

Millions, Except Per Share Amounts		***2019***		*2018*		*2017*
Net income	**$**	**5,919**	$	5,966	$	10,712
Weighted-average number of shares outstanding:						
Basic		**703.5**		750.9		798.4
Dilutive effect of stock options		**1.2**		1.9		1.8
Dilutive effect of retention shares and units		**1.4**		1.5		1.5
Diluted		**706.1**		754.3		801.7
Earnings per share – basic	**$**	**8.41**	$	7.95	$	13.42
Earnings per share – diluted	**$**	**8.38**	$	7.91	$	13.36

Common stock options totaling 0.5 million, 0.3 million, and 1.6 million for 2019, 2018, and 2017, respectively, were excluded from the computation of diluted earnings per share because the exercise prices of these options exceeded the average market price of our common stock for the respective periods, and the effect of their inclusion would be anti-dilutive.

10. Accumulated Other Comprehensive Income/(Loss)

Reclassifications out of accumulated other comprehensive income/(loss) were as follows (net of tax):

Millions		*Defined benefit plans*		*Foreign currency translation*		*Total*
Balance at January 1, 2019	$	(1,192)	$	(223)	$	(1,415)
Other comprehensive income/(loss) before reclassifications		(86)		17		(69)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]		36		-		36
OPEB Plan amendment (Note 6)		92		-		92
Net year-to-date other comprehensive income/(loss), net of taxes of ($15) million		42		17		59
Balance at December 31, 2019	$	(1,150)	$	(206)	$	(1,356)
Balance at January 1, 2018	$	(1,029)	$	(112)	$	(1,141)
Other comprehensive income/(loss) before reclassifications		(1)		(36)		(37)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]		63		-		63
Net year-to-date other comprehensive income/(loss), net of taxes of ($22) million		62		(36)		26
Reclassification due to ASU 2018-02 adoption [b]		(225)		(75)		(300)
Balance at December 31, 2018	$	(1,192)	$	(223)	$	(1,415)

[a] *The accumulated other comprehensive income/(loss) reclassification components are 1) prior service cost/(credit) and 2) net actuarial loss which are both included in the computation of net periodic pension cost. See Note 6 Retirement Plans for additional details.*

[b] *ASU 2018-02 is the Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which allows entities the option to reclassify from accumulated other comprehensive income to retained earnings the income tax effects that remain stranded in AOCI resulting from the application of the Tax Cuts and Jobs Act.*

11. Accounts Receivable

Accounts receivable includes freight and other receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, creditworthiness of customers, and current economic conditions. At December 31, 2019, and December 31, 2018, our accounts receivable were reduced by $4 million and $3 million, respectively. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position. At December 31, 2019, and December 31, 2018, receivables classified as other assets were reduced by allowances of $35 million and $27 million, respectively.

Receivables Securitization Facility – On July 29, 2019 the Railroad completed the renewal of the receivables securitization facility (the Receivables Facility). The new $800 million, 3-year facility replaces the prior $650 million facility and will mature in July 2022. Under the Receivables Facility, the Railroad sells most of its eligible third-party receivables to Union Pacific Receivables, Inc. (UPRI), a consolidated, wholly-owned, bankruptcy-remote subsidiary that may subsequently transfer, without recourse, an undivided interest in accounts receivable to investors. The investors have no recourse to the Railroad's other assets except for customary warranty and indemnity claims. Creditors of the Railroad do not have recourse to the assets of UPRI.

The amount recorded under the Receivables Facility was $400 million at both December 31, 2019, and December 31, 2018. The Receivables Facility was supported by $1.3 billion and $1.4 billion of accounts receivable as collateral at December 31, 2019, and December 31, 2018, respectively, which, as a retained interest, is included in accounts receivable, net in our Consolidated Statements of Financial Position.

The outstanding amount the Railroad is allowed to maintain under the Receivables Facility, with a maximum of $800 million, may fluctuate based on the availability of eligible receivables and is directly affected by business volumes and credit risks, including receivables payment quality measures such as default and dilution ratios. If default or dilution ratios increase one percent, the allowable outstanding amount under the Receivables Facility would not materially change.

The costs of the Receivables Facility include interest, which will vary based on prevailing benchmark and commercial paper rates, program fees paid to participating banks, commercial paper issuance costs, and fees of participating banks for unused commitment availability. The costs of the Receivables Facility are included in interest expense and were $14 million, $15 million, and $6 million for 2019, 2018, and 2017, respectively.

12. Properties

The following tables list the major categories of property and equipment, as well as the weighted-average estimated useful life for each category (in years):

Millions, Except Estimated Useful Life As of December 31, 2019	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,276	$ N/A	$ 5,276	N/A
Road:				
Rail and other track material	17,178	6,381	10,797	42
Ties	10,693	3,186	7,507	34
Ballast	5,752	1,669	4,083	34
Other roadway [a]	20,331	4,056	16,275	48
Total road	53,954	15,292	38,662	N/A
Equipment:				
Locomotives	9,467	3,434	6,033	18
Freight cars	2,083	779	1,304	25
Work equipment and other	1,081	322	759	18
Total equipment	12,631	4,535	8,096	N/A
Technology and other	1,136	503	633	12
Construction in progress	1,249	-	1,249	N/A
Total	$ 74,246	$ 20,330	$ 53,916	N/A

Millions, Except Estimated Useful Life As of December 31, 2018	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,264	$ N/A	$ 5,264	N/A
Road:				
Rail and other track material	16,785	6,156	10,629	43
Ties	10,409	3,025	7,384	34
Ballast	5,561	1,595	3,966	34
Other roadway [a]	19,584	3,766	15,818	48
Total road	52,339	14,542	37,797	N/A
Equipment:				
Locomotives	9,792	3,861	5,931	19
Freight cars	2,229	929	1,300	24
Work equipment and other	1,040	301	739	19
Total equipment	13,061	5,091	7,970	N/A
Technology and other	1,117	493	624	12
Construction in progress	1,024	-	1,024	N/A
Total	$ 72,805	$ 20,126	$ 52,679	N/A

[a] Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. We perform depreciation studies at least every 3 years for equipment and every 6 years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) is unusual, (ii) is material in amount, and (iii) varies significantly from the retirement profile identified through our depreciation studies. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

When we purchase an asset, we capitalize all costs necessary to make the asset ready for its intended use. However, many of our assets are self-constructed. A large portion of our capital expenditures is for

replacement of existing track assets and other road properties, which is typically performed by our employees, and for track line expansion and other capacity projects. Costs that are directly attributable to capital projects (including overhead costs) are capitalized. Direct costs that are capitalized as part of self-constructed assets include material, labor, and work equipment. Indirect costs are capitalized if they clearly relate to the construction of the asset.

Costs incurred that extend the useful life of an asset, improve the safety of our operations or improve operating efficiency are capitalized, while normal repairs and maintenance are expensed as incurred. These costs are allocated using appropriate statistical bases. Total expense for repairs and maintenance incurred was $2.3 billion for 2019, $2.5 billion for 2018, and $2.5 billion for 2017.

Assets held under finance leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

13. Accounts Payable and Other Current Liabilities

Millions		***Dec. 31, 2019***		*Dec. 31, 2018*
Accounts payable	**$**	**749**	$	872
Income and other taxes payable		**496**		694
Accrued wages and vacation		**370**		384
Current operating lease liabilities (Note 17)		**362**		-
Interest payable		**289**		317
Accrued casualty costs		**190**		211
Equipment rents payable		**100**		107
Other		**538**		575
Total accounts payable and other current liabilities	**$**	**3,094**	$	3,160

14. Financial Instruments

Short-Term Investments – All of the Company’s short-term investments consist of time deposits and government agency securities. These investments are considered Level 2 investments and are valued at amortized cost, which approximates fair value. As of December 31, 2019, the Company had $75 million of short-term investments, of which $15 million are in a trust for the purpose of providing collateral for payment of certain other long-term liabilities, and as such are reclassified as other assets. All short-term investments have a maturity of less than one year and are classified as held-to-maturity. There were no transfers out of Level 2 during the year ended December 31, 2019.

Fair Value of Financial Instruments – The fair value of our short- and long-term debt was estimated using a market value price model, which utilizes applicable U.S. Treasury rates along with current market quotes on comparable debt securities. All of the inputs used to determine the fair market value of the Corporation’s long-term debt are Level 2 inputs and obtained from an independent source. At December 31, 2019, the fair value of total debt was $27.2 billion, approximately $2.0 billion more than the carrying value. At December 31, 2018, the fair value of total debt was $21.9 billion, approximately $0.5 billion less than the carrying value. The fair value of the Corporation’s debt is a measure of its current value under present market conditions. It does not impact the financial statements under current accounting rules. The fair value of our cash equivalents approximates their carrying value due to the short-term maturities of these instruments.

15. Debt

Total debt as of December 31, 2019, and 2018, is summarized below:

Millions		***2019***		*2018*
Notes and debentures, 1.8% to 7.1% due through September 15, 2067	**$**	**24,008**	$	20,627
Equipment obligations, 2.6% to 6.2% due through January 2, 2031		**923**		969
Finance leases, 3.1% to 8.0% due through December 10, 2028		**605**		754
Receivables securitization (Note 11)		**400**		400
Term loans - floating rate, due through October 29, 2020		**250**		250
Commercial paper, 1.8% to 2.0% due through January 9, 2020		**200**		200
Medium-term notes, 9.3% to 10.0% due through April 15, 2020		**8**		8
Unamortized discount and deferred issuance costs		**(1,194)**		(817)
Total debt		**25,200**		22,391
Less: current portion		**(1,257)**		(1,466)
Total long-term debt	**$**	**23,943**	$	20,925

Debt Maturities – The following table presents aggregate debt maturities as of December 31, 2019, excluding market value adjustments:

Millions		
2020	$	1,259
2021		1,256
2022		1,802
2023		1,391
2024		1,445
Thereafter		19,241
Total principal		26,394
Unamortized discount and deferred issuance costs		(1,194)
Total debt	$	25,200

Equipment Encumbrances – Equipment with a carrying value of approximately $1.6 billion and $1.8 billion at December 31, 2019, and 2018, respectively, served as collateral for finance leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Debt Redemptions – Effective as of March 15, 2018, we redeemed, in entirety, the Missouri Pacific 5% Income Debentures due January 1, 2045, the Chicago and Eastern Illinois 5% Income Debentures due January 1, 2054, and the Missouri Pacific 4.75% General Mortgage Income Bonds Series A due January 1, 2020 and Series B due January 1, 2030. The debentures had principal outstanding of $96 million and $2 million, respectively, and the bonds had principal outstanding of $30 million and $27 million, respectively. The bonds and debentures were assumed by the Railroad in the 1982 acquisition of the Missouri Pacific Railroad Company, with a weighted average interest rate of 4.9%. The carrying value of all four bonds and debentures at the time of redemption was $70 million, due to fair value purchase accounting adjustments related to the acquisition. The redemption resulted in an early extinguishment charge of $85 million in the first quarter of 2018.

Effective October 15, 2019, we redeemed all $163 million of our outstanding 6.125% notes due February 15, 2020. The redemption resulted in an early extinguishment charge of $2 million in the fourth quarter of 2019.

Debt Exchange - On November 20, 2019, we exchanged $1,839 million of various outstanding notes and debentures due between June 1, 2033 and September 10, 2058 (the Existing Notes) for $1,842 million of 3.839% notes (the New Notes) due March 20, 2060, plus cash consideration of approximately $373 million in addition to $19 million for accrued and unpaid interest on the Existing Notes. In accordance with ASC 470-50-40, *Debt-Modifications and Extinguishments-Derecognition*, this transaction was accounted for as a debt exchange, as the exchanged debt instruments are not considered to be substantially different. The

cash consideration was recorded as an adjustment to the carrying value of debt, and the balance of the unamortized discount and issue costs from the Existing Notes is being amortized as an adjustment of interest expense over the terms of the New Notes. No gain or loss was recognized as a result of the exchange. Costs related to the debt exchange that were payable to parties other than the debt holders totaled approximately $15 million and were included in interest expense in the fourth quarter of 2019.

Credit Facilities – At December 31, 2019, we had $2.0 billion of credit available under our revolving credit facility, which is designated for general corporate purposes and supports the issuance of commercial paper. Credit facility withdrawals totaled $0 during 2019. Commitment fees and interest rates payable under the Facility are similar to fees and rates available to comparably rated, investment-grade borrowers. The Facility allows for borrowings at floating rates based on London Interbank Offered Rates, plus a spread, depending upon credit ratings for our senior unsecured debt. The 5 year facility requires UPC to maintain a debt-to-EBITDA (earnings before interest, taxes, depreciation, and amortization) coverage ratio.

The definition of debt used for purposes of calculating the debt-to-EBITDA coverage ratio includes, among other things, certain credit arrangements, finance leases, guarantees, unfunded and vested pension benefits under Title IV of ERISA, and unamortized debt discount and deferred debt issuance costs. At December 31, 2019, the Company was in compliance with the debt-to-EBITDA coverage ratio, which allows us to carry up to $38.5 billion of debt (as defined in the Facility), and we had $26.4 billion of debt (as defined in the Facility) outstanding at that date. The Facility does not include any other financial restrictions, credit rating triggers (other than rating-dependent pricing), or any other provision that could require us to post collateral. The Facility also includes a $150 million cross-default provision and a change-of-control provision.

During 2019, we issued $9.3 billion and repaid $9.3 billion of commercial paper with maturities ranging from 1 to 32 days. As of both December 31, 2019, and 2018, we had $200 million of commercial paper outstanding. Our revolving credit facility supports our outstanding commercial paper balances, and, unless we change the terms of our commercial paper program, our aggregate issuance of commercial paper will not exceed the amount of borrowings available under the Facility.

In May 2018, we entered into a short-term bilateral line of credit agreement with $1.0 billion of credit available. During the three months ended June 30, 2018, we drew and repaid $750 million. The line of credit matured on August 20, 2018. We used the proceeds for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs.

Shelf Registration Statement and Significant New Borrowings – In 2018, the Board of Directors reauthorized the issuance of up to $6.0 billion of debt securities. Under our shelf registration, we may issue, from time to time, any combination of debt securities, preferred stock, common stock, or warrants for debt securities or preferred stock in one or more offerings.

During 2019, we issued the following unsecured, fixed-rate debt securities under our shelf registration:

Date	*Description of Securities*
February 19, 2019	$500 million of 2.950% Notes due March 1, 2022
	$500 million of 3.150% Notes due March 1, 2024
	$1.0 billion of 3.700% Notes due March 1, 2029
	$1.0 billion of 4.300% Notes due March 1, 2049
August 5, 2019	$500 million of 3.550% Notes due August 15, 2039
	$500 million of 3.950% Notes due August 15, 2059

We used the net proceeds from the offerings for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs. These debt securities include change-of-control provisions.

On November 14, 2019, the Board of Directors renewed its authorization for the Company to issue up to $6.0 billion of debt securities under the Shelf. This authorization replaced the prior Board authorization which had $2.0 billion of remaining authority. At December 31, 2019, we had remaining authority to issue up to $6.0 billion of debt securities under our shelf registration.

Receivables Securitization Facility – As of both December 31, 2019, and 2018, we recorded $400 million of borrowings under our Receivables Facility, as secured debt. (See further discussion of our receivables securitization facility in Note 11).

Subsequent Event – On January 31, 2020, we issued the following in unsecured, fixed rate debt securities under our current shelf registration:

Date	*Description of Securities*
January 31, 2020	$500 million of 2.150% Notes due February 5, 2027
	$750 million of 2.400% Notes due February 5, 2030
	$1.0 billion of 3.250% Notes due February 5, 2050
	$750 million of 3.750% Notes due February 5, 2070

These debt securities include change-of-control provisions. After this issuance, we had remaining authority to issue up to $3.0 billion of debt securities under our shelf registration.

16. Variable Interest Entities

We have entered into various lease transactions in which the structure of the leases contain variable interest entities (VIEs). These VIEs were created solely for the purpose of doing lease transactions (principally involving railroad equipment and facilities) and have no other activities, assets or liabilities outside of the lease transactions. Within these lease arrangements, we have the right to purchase some or all of the assets at fixed prices. Depending on market conditions, fixed-price purchase options available in the leases could potentially provide benefits to us; however, these benefits are not expected to be significant.

We maintain and operate the assets based on contractual obligations within the lease arrangements, which set specific guidelines consistent within the railroad industry. As such, we have no control over activities that could materially impact the fair value of the leased assets. We do not hold the power to direct the activities of the VIEs and, therefore, do not control the ongoing activities that have a significant impact on the economic performance of the VIEs. Additionally, we do not have the obligation to absorb losses of the VIEs or the right to receive benefits of the VIEs that could potentially be significant to the VIEs.

We are not considered to be the primary beneficiary and do not consolidate these VIEs because our actions and decisions do not have the most significant effect on the VIE’s performance and our fixed-price purchase options are not considered to be potentially significant to the VIEs. The future minimum lease payments associated with the VIE leases totaled $1.5 billion as of December 31, 2019 and are recorded as operating lease liabilities at present value in our Consolidated Statements of Financial Position.

17. Leases

We lease certain locomotives, freight cars, and other property for use in our rail operations. We determine if an arrangement is or contains a lease at inception. We have lease agreements with lease and non-lease components and we have elected to not separate lease and non-lease components for all classes of underlying assets. Leases with an initial term of 12 months or less are not recorded on our Consolidated Statements of Financial Position; we recognize lease expense for these leases on a straight-line basis over the lease term. Leases with initial terms in excess of 12 months are recorded as operating or financing leases in our Consolidated Statement of Financial Position. Operating leases are included in operating lease assets, accounts payable and other current liabilities, and operating lease liabilities on our Consolidated Statements of Financial Position. Finance leases are included in net properties, debt due within one year, and debt due after one year on our Consolidated Statements of Financial Position.

Operating lease assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, we use a collateralized incremental borrowing rate for all operating leases based on the information available at commencement date, including lease term, in determining the present value of future payments. The operating lease asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Operating lease expense is recognized on a straight-line basis over the lease term and reported in equipment and other rents and financing lease expense is recorded as depreciation and interest expense in our Consolidated Statements of Income.

The following are additional details related to our lease portfolio:

Millions	*Classification*	*Dec. 31, 2019*
Assets		
Operating leases	Operating lease assets	$ 1,812
Finance leases	Net properties [a]	468
Total leased assets		$ 2,280
Liabilities		
Current		
Operating	Accounts payable and other current liabilities	$ 362
Finance	Debt due within one year	114
Noncurrent		
Operating	Operating lease liabilities	1,471
Finance	Debt due after one year	491
Total lease liabilities		$ 2,438

[a] Finance lease assets are recorded net of accumulated amortization of $797 million as of December 31, 2019.

The lease cost components are classified as follows:

Millions	*Classification*	*Dec. 31, 2019*
Operating lease cost [a]	Equipment and other rents	$ 328
Finance lease cost		
Amortization of leased assets	Depreciation	72
Interest on lease liabilities	Interest expense	34
Net lease cost		$ 434

[a] Includes short-term lease costs of $1 million and variable lease costs of $8 million.

The following table presents aggregate lease maturities as of December 31, 2019:

Millions	*Operating Leases*	*Finance Leases*	*Total*
2020	$ 366	$ 143	$ 509
2021	293	147	440
2022	258	130	388
2023	217	88	305
2024	208	75	283
After 2024	775	124	899
Total lease payments	$ 2,117	$ 707	$ 2,824
Less: Interest	284	102	386
Present value of lease liabilities	$ 1,833	$ 605	$ 2,438

The following table presents the weighted average remaining lease term and discount rate:

	Dec. 31, 2019
Weighted-average remaining lease term (years)	
Operating leases	8.7
Finance leases	5.9
Weighted-average discount rate (%)	
Operating leases	3.7
Finance leases	5.3

The following table presents other information related to our operating and finance leases for the year ended December 31:

Millions		*2019*
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$	350
Operating cash flows from finance leases		35
Financing cash flows from finance leases		112
Leased assets obtained in exchange for finance lease liabilities		-
Leased assets obtained in exchange for operating lease liabilities		64

18. Commitments and Contingencies

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2019. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $265 million to $289 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions		***2019***		*2018*		*2017*
Beginning balance	**$**	**271**	$	285	$	290
Current year accruals		**78**		74		77
Changes in estimates for prior years		**(11)**		(16)		(7)
Payments		**(73)**		(72)		(75)
Ending balance at December 31	**$**	**265**	$	271	$	285
Current portion, ending balance at December 31	**$**	**63**	$	72	$	66

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2019, and 2018. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 360 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 31 sites that are the subject of actions taken by the U.S. government, 20 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the

remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions		***2019***		*2018*		*2017*
Beginning balance	**$**	**223**	$	196	$	212
Accruals		**67**		84		45
Payments		**(63)**		(57)		(61)
Ending balance at December 31	**$**	**227**	$	223	$	196
Current portion, ending balance at December 31	**$**	**62**	$	59	$	57

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Insurance – The Company has a consolidated, wholly-owned captive insurance subsidiary (the captive), that provides insurance coverage for certain risks including FELA claims and property coverage which are subject to reinsurance. The captive entered into annual reinsurance treaty agreements that insure workers compensation, general liability, auto liability and FELA risk. The captive cedes a portion of its FELA exposure through the treaty and assumes a proportionate share of the entire risk. The captive receives direct premiums, which are netted against the Company's premium costs in other expenses in the Consolidated Statements of Income. The treaty agreements provide for certain protections against the risk of treaty participants' non-performance, and we do not believe our exposure to treaty participants' non-performance is material at this time. We record both liabilities and reinsurance receivables using an actuarial analysis based on historical experience in our Consolidated Statements of Financial Position. Effective January 2019, the captive insurance subsidiary no longer participates in the reinsurance treaty agreement. The Company established a trust in the fourth quarter of 2018 for the purpose of providing collateral as required under the reinsurance treaty agreement for prior years' participation.

Guarantees – At December 31, 2019, and 2018, we were contingently liable for $15 million and $22 million, respectively, in guarantees. The fair value of these obligations as of both December 31, 2019, and 2018 was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

Indemnities – We are contingently obligated under a variety of indemnification arrangements, although in some cases the extent of our potential liability is limited, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

19. Share Repurchase Programs

Effective April 1, 2019, our Board of Directors authorized the repurchase of up to 150 million shares of our common stock by March 31, 2022, replacing our previous repurchase program. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions. As of December 31, 2019, we repurchased a total of $37.2 billion of our common stock since commencement of our repurchase programs in 2007. The table below represents shares repurchased under repurchase programs during 2018 and 2019:

	Number of Shares Purchased		*Average Price Paid*	
	2019	*2018*	***2019***	*2018*
First quarter [a]	**18,149,450**	9,259,004	**$ 165.79**	$ 132.84
Second quarter [b]	**3,732,974**	33,229,992	**171.24**	142.74
Third quarter [c]	**9,529,733**	2,239,405	**163.30**	151.94
Fourth quarter [d]	**3,582,212**	12,490,632	**167.32**	153.04
Total	**34,994,369**	57,219,033	**$ 165.85**	$ 143.75
Remaining number of shares that may be repurchased under current authority				133,155,081

[a] Includes 11,795,930 shares repurchased in February 2019 under accelerated share repurchase programs.
[b] Includes 19,870,292 shares repurchased in June 2018 under accelerated share repurchase programs.
[c] Includes 3,172,900 shares repurchased in August 2019 under accelerated share repurchase programs.
[d] Includes 4,457,356 shares repurchased in October 2018 under accelerated share repurchase programs.

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2020, through February 6, 2020, we repurchased 2.7 million shares at an aggregate cost of approximately $493 million.

Accelerated Share Repurchase Programs – The Company has established accelerated share repurchase programs (ASRs) with financial institutions to repurchase shares of our common stock. These ASRs have been structured so that at the time of commencement, we pay a specified amount to the financial institutions and receive an initial delivery of shares. Additional shares may be received at the time of settlement. The final number of shares to be received is based on the volume weighted average price of the Company's common stock during the ASR term, less a discount and subject to potential adjustments pursuant to the terms of such ASR.

On February 26, 2019, the Company received 11,795,930 shares of its common stock repurchased under ASRs for an aggregate of $2.5 billion. Upon settlement of these ASRs in the third quarter of 2019, we received 3,172,900 additional shares.

On June 15, 2018, the Company received 19,870,292 shares of its common stock repurchased under ASRs for an aggregate of $3.6 billion. Upon settlement of these ASRs in the fourth quarter of 2018, we received 4,457,356 additional shares.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

20. Related Parties

UPRR and other North American railroad companies jointly own TTX Company (TTX). UPRR has a 36.79% economic and voting interest in TTX while the other North American railroads own the remaining interest. In accordance with ASC 323 *Investments - Equity Method and Joint Venture*, UPRR applies the equity method of accounting to our investment in TTX.

TTX is a railcar pooling company that owns railcars and intermodal wells to serve North America's railroads. TTX assists railroads in meeting the needs of their customers by providing railcars in an efficient, pooled environment. All railroads have the ability to utilize TTX railcars through car hire by renting railcars at stated rates.

UPRR had $1.4 billion and $1.3 billion recognized as investments related to TTX in our Consolidated Statements of Financial Position as of December 31, 2019, and 2018, respectively. TTX car hire expenses of $407 million in 2019, $429 million in 2018, and $388 million in 2017 are included in equipment and other rents in our Consolidated Statements of Income. In addition, UPRR had accounts payable to TTX of $62 million and $66 million at December 31, 2019, and 2018, respectively.

21. Selected Quarterly Data (Unaudited)

Millions, Except Per Share Amounts				
2019	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,384	$ 5,596	$ 5,516	$ 5,212
Operating income	1,960	2,260	2,234	2,100
Net income	1,391	1,570	1,555	1,403
Net income per share:				
Basic	1.94	2.23	2.22	2.03
Diluted	1.93	2.22	2.22	2.02

Millions, Except Per Share Amounts				
2018	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,475	$ 5,672	$ 5,928	$ 5,757
Operating income	1,939	2,099	2,269	2,210
Net income	1,310	1,509	1,593	1,554
Net income per share:				
Basic	1.69	1.98	2.16	2.13
Diluted	1.68	1.98	2.15	2.12

Per share net income for the four quarters combined may not equal the per share net income for the year due to rounding.

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

None.

Item 9A. Controls and Procedures

As of the end of the period covered by this report, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation's management, including the Corporation's Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures pursuant to Exchange Act Rules 13a-15 and 15d-15. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based upon that evaluation, the CEO and the CFO concluded that, as of the end of the period covered by this report, the Corporation's disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified by the SEC, and that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, the CEO and CFO determined that there were no changes to the Corporation's internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Union Pacific Corporation and Subsidiary Companies (the Corporation) is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2019. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control – Integrated Framework (2013)*. Based on our assessment, management believes that, as of December 31, 2019, the Corporation's internal control over financial reporting is effective based on those criteria.

The Corporation's independent registered public accounting firm has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting. This report appears on the next page.

February 6, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2019, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019 and our report dated February 7, 2020 expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Corporation’s adoption of Financial Accounting Standards Board Accounting Standards Update No. 2016-02, *Leases (Topic 842)*.

The Corporation’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 Corporation’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 Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 7, 2020

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

(a) Directors of Registrant.

Information as to the names, ages, positions and offices with UPC, terms of office, periods of service, business experience during the past five years and certain other directorships held by each director or person nominated to become a director of UPC is set forth in the Election of Directors segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee and the independence of its members, along with information about the audit committee financial expert(s) serving on the Audit Committee, is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

(b) Executive Officers of Registrant.

Information concerning the executive officers of UPC and its subsidiaries is presented in Part I of this report under Information About Our Executive Officers and Principal Executive Officers of Our Subsidiaries.

(c) Delinquent Section 16(a) Reports.

Information concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth in the Section 16(a) Beneficial Ownership Reporting Compliance segment of the Proxy Statement and is incorporated herein by reference.

(d) Code of Ethics for Chief Executive Officer and Senior Financial Officers of Registrant.

The Board of Directors of UPC has adopted the UPC Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the Code). A copy of the Code may be found on the Internet at our website www.up.com/investor/governance. We intend to disclose any amendments to the Code or any waiver from a provision of the Code on our website.

Item 11. Executive Compensation

Information concerning compensation received by our directors and our named executive officers is presented in the Compensation Discussion and Analysis, Summary Compensation Table, Grants of Plan-Based Awards in Fiscal Year 2019, Outstanding Equity Awards at 2019 Fiscal Year-End, Option Exercises and Stock Vested in Fiscal Year 2019, Pension Benefits at 2019 Fiscal Year-End, Nonqualified Deferred Compensation at 2019 Fiscal Year-End, Potential Payments Upon Termination or Change in Control and Director Compensation in Fiscal Year 2019 segments of the Proxy Statement and is incorporated herein by reference. Additional information regarding compensation of directors, including Board committee members, is set forth in the By-Laws of UPC and the Stock Unit Grant and Deferred Compensation Plan for the Board of Directors, both of which are included as exhibits to this report. Information regarding the Compensation and Benefits Committee is set forth in the Compensation Committee Interlocks and Insider Participation and Compensation Committee Report segments of the Proxy Statement and is incorporated herein by reference.

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

Information as to the number of shares of our equity securities beneficially owned by each of our directors and nominees for director, our named executive officers, our directors and executive officers as a group, and certain beneficial owners is set forth in the Security Ownership of Certain Beneficial Owners and Management segment of the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions and Director Independence

Information on related transactions is set forth in the Certain Relationships and Related Transactions and Compensation Committee Interlocks and Insider Participation segments of the Proxy Statement and is incorporated herein by reference. We do not have any relationship with any outside third party that would enable such a party to negotiate terms of a material transaction that may not be available to, or available from, other parties on an arm's-length basis.

Information regarding the independence of our directors is set forth in the Director Independence segment of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information concerning the fees billed by our independent registered public accounting firm and the nature of services comprising the fees for each of the two most recent fiscal years in each of the following categories: (i) audit fees, (ii) audit-related fees, (iii) tax fees, and (iv) all other fees, is set forth in the Independent Registered Public Accounting Firm's Fees and Services segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee's policies and procedures pertaining to pre-approval of audit and non-audit services rendered by our independent registered public accounting firm is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules, and Exhibits:

(1) Financial Statements

The financial statements filed as part of this filing are listed on the index to the Financial Statements and Supplementary Data, Item 8, on page 44.

(2) Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

Schedules not listed above have been omitted because they are not applicable or not required or the information required to be set forth therein is included in the Financial Statements and Supplementary Data, Item 8, or notes thereto.

(3) Exhibits

Exhibits are listed in the exhibit index beginning on page 88. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,		***2019***		*2018*		*2017*
Accrued casualty costs:						
Balance, beginning of period	**$**	**709**	$	684	$	716
Charges to expense		**215**		202		167
Cash payments and other reductions		**(267)**		(177)		(199)
Balance, end of period	**$**	**657**	$	709	$	684
Accrued casualty costs are presented in the Consolidated Statements of Financial Position as follows:						
Current	**$**	**190**	$	211	$	194
Long-term		**467**		498		490
Balance, end of period	**$**	**657**	$	709	$	684

UNION PACIFIC CORPORATION
Exhibit Index

Exhibit No.	Description
Filed with this Statement	
4(a)	Description of securities registered under Section 12 of the Exchange Act.
10(a)†	Form of Performance Stock Unit Agreement dated February 6, 2020.
10(b)†	Form of Non-Qualified Stock Option Agreement for Executives dated February 6, 2020.
10(c)†	Union Pacific Corporation Policy for Recoupment of Incentive Compensation, effective January 1, 2020.
10(d)†	Union Pacific Corporation 2013 Stock Incentive Plan, effective May 16, 2013, as amended effective as of January 1, 2020.
10(e)†	Union Pacific Corporation Executive Incentive Plan, effective May 5, 2005, amended and restated effective January 1, 2020.
21	List of the Corporation's significant subsidiaries and their respective states of incorporation.
23	Independent Registered Public Accounting Firm's Consent.
24	Powers of attorney executed by the directors of UPC.
31(a)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz.
31(b)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 –Jennifer L. Hamann.
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz and Jennifer L. Hamann.
101	The following financial and related information from Union Pacific Corporation's Annual Report on Form 10-K for the year ended December 31, 2019 (filed with the SEC on February 7, 2020), formatted in Inline Extensible Business Reporting Language (iXBRL) includes (i) Consolidated Statements of Income for the years ended December 31, 2019, 2018 and 2017, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2019, 2018, and 2017, (iii) Consolidated Statements of Financial Position at December 31, 2019 and December 31, 2018, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2019, 2018 and 2017, (v) Consolidated Statements of Changes in Common Shareholders' Equity for the years ended December 31, 2019, 2018 and 2017, and (vi) the Notes to the Consolidated Financial Statements.
104	Cover Page Interactive Data File, formatted in Inline XBRL (contained in Exhibit 101).
Incorporated by Reference	
3(a)	Restated Articles of Incorporation of UPC, as amended and restated through June 27, 2011, and as further amended May 15, 2014, are incorporated herein by reference to Exhibit 3(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.

3(b)	By-Laws of UPC, as amended, effective November 19, 2015, are incorporated herein by reference to Exhibit 3.2 to the Corporation's Current Report on Form 8-K dated November 19, 2015.
4(b)	Indenture, dated as of December 20, 1996, between UPC and Wells Fargo Bank, National Association, as successor to Citibank, N.A., as Trustee, is incorporated herein by reference to Exhibit 4.1 to UPC's Registration Statement on Form S-3 (No. 333-18345).
4(c)	Indenture, dated as of April 1, 1999, between UPC and The Bank of New York, as successor to JP Morgan Chase Bank, formerly The Chase Manhattan Bank, as Trustee, is incorporated herein by reference to Exhibit 4.2 to UPC's Registration Statement on Form S-3 (No. 333-75989).
4(d)	Form of 2.950% Note due 2022 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated February 19, 2019.
4(e)	Form of 3.150% Note due 2024 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated February 19, 2019.
4(f)	Form of 3.700% Note due 2029 is incorporated by reference to Exhibit 4.3 to the Corporation's Current Report on Form 8-K dated February 19, 2019.
4(g)	Form of 4.300% Note due 2049 is incorporated by reference to Exhibit 4.4 to the Corporation's Current Report on Form 8-K dated February 19, 2019.
4(h)	Form of 3.550% Note due 2039 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated August 5, 2019.
4(i)	Form of 3.950% Note due 2059 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated August 5, 2019.
	Certain instruments evidencing long-term indebtedness of UPC are not filed as exhibits because the total amount of securities authorized under any single such instrument does not exceed 10% of the Corporation's total consolidated assets. UPC agrees to furnish the Commission with a copy of any such instrument upon request by the Commission.
10(g)†	Supplemental Thrift Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(h)†	Supplemental Pension Plan for Officers and Managers (409A Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended February 1, 2013, and March 1, 2013 is incorporated herein by reference to Exhibit 10(f) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(i)†	Union Pacific Corporation Key Employee Continuity Plan, as amended February 6, 2014, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(j)†	Deferred Compensation Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(b) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(k)†	Deferred Compensation Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended December 17, 2013, is incorporated herein by reference to Exhibit 10(e) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.

10(l)†	Union Pacific Corporation 2000 Directors Plan, effective as of April 21, 2000, as amended November 16, 2006, January 30, 2007 and January 1, 2009 is incorporated herein by reference to Exhibit 10(j) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(m)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Non-Grandfathered Component), effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(k) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(n)†	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Grandfathered Component), as amended and restated in its entirety, effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(l) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(o)†	UPC 2004 Stock Incentive Plan amended March 1, 2013, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(p)	Amended and Restated Registration Rights Agreement, dated as of July 12, 1996, among UPC, UP Holding Company, Inc., Union Pacific Merger Co. and Southern Pacific Rail Corporation (SP) is incorporated herein by reference to Annex J to the Joint Proxy Statement/Prospectus included in Post-Effective Amendment No. 2 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(q)	Agreement, dated September 25, 1995, among UPC, UPRR, Missouri Pacific Railroad Company (MPRR), SP, Southern Pacific Transportation Company (SPT), The Denver & Rio Grande Western Railroad Company (D&RGW), St. Louis Southwestern Railway Company (SLSRC) and SPCSL Corp. (SPCSL), on the one hand, and Burlington Northern Railroad Company (BN) and The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), on the other hand, is incorporated by reference to Exhibit 10.11 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(r)	Supplemental Agreement, dated November 18, 1995, between UPC, UPRR, MPRR, SP, SPT, D&RGW, SLSRC and SPCSL, on the one hand, and BN and Santa Fe, on the other hand, is incorporated herein by reference to Exhibit 10.12 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(s)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(t)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(u)†	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(v)†	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(w)†	Form of 2017 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2016.

10(x)†	Form of 2018 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.
10(y)†	Form of 2019 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2018.
10(z)†	Executive Incentive Plan (2005) – Deferred Compensation Program, dated December 21, 2005 is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2005.

† Indicates a management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 7th day of February, 2020.

UNION PACIFIC CORPORATION

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific Corporation

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, on this 7th day of February, 2020, by the following persons on behalf of the registrant and in the capacities indicated.

PRINCIPAL EXECUTIVE OFFICER
AND DIRECTOR:

By /s/ Lance M. Fritz
Lance M. Fritz,
Chairman, President and
Chief Executive Officer
Union Pacific Corporation

PRINCIPAL FINANCIAL OFFICER:

By /s/ Jennifer L. Hamann
Jennifer L. Hamann
Executive Vice President and
Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

By /s/ Todd M. Rynaski
Todd M. Rynaski,
Vice President and Controller

DIRECTORS:

Andrew H. Card, Jr.*
Erroll B. Davis, Jr.*
William J. DeLaney*
David B. Dillon*
Deborah C. Hopkins*
Jane H. Lute*

Michael R. McCarthy*
Thomas F. McLarty III*
Bhavesh V. Patel*
Jose H. Villarreal*
Christopher J. Williams*

* By Rhonda S. Ferguson
Rhonda S. Ferguson, Attorney-in-fact

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

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

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

For the transition period from __________ to ____________

Commission File Number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

UTAH	**13-2626465**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1400 DOUGLAS STREET, OMAHA, NEBRASKA

(Address of principal executive offices)

68179

(Zip Code)

(402) 544-5000

(Registrant's telephone number, including area code)

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

Title of each Class	**Name of each exchange on which registered**
Common Stock (Par Value $2.50 per share)	**New York Stock Exchange, Inc.**

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

☑ Yes ☐ No

- Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

☐ Yes ☑ No

- Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☑ Yes ☐ No

- Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

☑ Yes ☐ No

- Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

☑

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

Large accelerated filer ☑	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐

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

☐ Yes ☑ No

- 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.

☐

- As of June 29, 2018, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was $104.6 billion.

The number of shares outstanding of the registrant's Common Stock as of February 1, 2019 was 722,877,817.

Documents Incorporated by Reference – Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 16, 2019, are incorporated by reference into Part III of this report. The registrant's Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

UNION PACIFIC CORPORATION
TABLE OF CONTENTS

February 8, 2019

Fellow Shareholders:

I am pleased to report that Union Pacific produced record 2018 financial results and finished the year with significant improvements in service reliability and efficiency, after overcoming network congestion and excess operating costs. The year was also one of change, as we embarked on a fundamental shift in our operating philosophy by adopting precision scheduled railroading (PSR) principles with the launch of Unified Plan 2020. An increase in customer shipments of 4 percent in 2018, coupled with core pricing and productivity gains, generated earnings of $7.91 per share. This represents a 37 percent improvement compared to 2017 adjusted results of $5.79 per share*. Our operating ratio was 62.7 percent, 0.1 point better than last year's adjusted 62.8 percent*.

Premium carloadings were up 6 percent, driven primarily by increases in international and domestic intermodal shipments. Our Industrial business unit also experienced a 6 percent increase in shipments across a number of segments due to strong industrial production, while Agricultural Products carloadings were down 1 percent reflecting lower export grain movements. Energy volume declined 2 percent due to lower coal and frac sand carloadings, partially offset by an increase in petroleum products shipments.

As we entered 2018, the railroad was experiencing unusual network congestion on key routes and in terminals that negatively impacted our operational performance. These inefficiencies also drove excess costs and impacted our ability to reliably serve our customers. In response, we initiated Unified Plan 2020 and began implementing PSR October 1. Fundamentally, PSR is an operating principle that emphasizes on-time service performance for every rail car, execution accountability, and lean resource utilization, while at the same time improving total safety performance.

Unified Plan 2020 implementation is progressing ahead of our original schedule, with the initial roll out expected to be complete by mid-2019. Results are encouraging as railroad operations improved steadily throughout the fourth quarter, driving out excess costs. We removed over 1,200 locomotives and approximately 30,000 freight cars from our network since August 1, which increases operational fluidity and provides a source of future growth capacity.

Despite our best efforts, we lost a little ground with our safety results in 2018. Our 0.82 reportable personal injury rate increased 4 percent compared to 2017, although preliminary results show this was the best safety performance for all Class 1 railroads for the fourth year in a row. Our reportable derailment incident rate and crossing incidents rate increased 12 and 5 percent, respectively, compared to 2017. The entire Union Pacific team is not satisfied with these results and will not be satisfied until every employee returns home safely every day and we eliminate all derailments. We are committed to making progress toward these goals in 2019.

As part of our robust capital program, we invested about $3.2 billion in 2018 including $1.8 billion in replacement capital to harden our infrastructure, replace older assets, and to improve the safety and resiliency of our network. We also invested $520 million toward new rail capacity and commercial facilities projects to support future growth and productivity initiatives.

Total shareholder return, including price appreciation and dividends, increased 5.3 percent in 2018, compared to a negative 4.4 percent for the S&P 500. Our return on invested capital* of 15.1 percent increased 1.4 points over 2017's adjusted 13.7 percent. We raised our quarterly dividend with two 10 percent increases, resulting in dividends paid in 2018 totaling $2.3 billion. In addition, we repurchased 57.2 million Union Pacific shares, decreasing our total share count by 6 percent. Combining dividends and share repurchases, Union Pacific returned $10.5 billion to our shareholders in 2018.

Looking to 2019, we are optimistic that continued economic growth, our improving service performance, increasingly-efficient use of our assets, and the strength of our diverse franchise will drive positive volume and top-line revenue growth. We expect to generate significant productivity benefits and enhance customer experience through our G55 + 0 initiatives and the continued roll out of Unified Plan 2020. Every Union Pacific employee is committed to achieving industry-leading safety, service reliability, and financial performance in the coming year.

Picture 3

Chairman, President and Chief Executive Officer

*See Item 7 of this report for reconciliations to U.S. GAAP.

DIRECTORS AND SENIOR MANAGEMENT

BOARD OF DIRECTORS

Andrew H. Card, Jr.
Former White House
Chief of Staff
Board Committees: Audit,
Compensation and Benefits

Erroll B. Davis, Jr.
Former Chairman,
President & CEO
Alliant Energy Corporation
Board Committees: Compensation and Benefits (Chair), Corporate Governance and Nominating

William J. DeLaney
Former Chief Executive Officer,
Sysco Corporation
Board Committees: Audit,
Compensation and Benefits

David B. Dillon
Former Chairman
The Kroger Company
Board Committees: Audit (Chair),
Compensation and Benefits

Lance M. Fritz
Chairman, President and
Chief Executive Officer
Union Pacific Corporation and
Union Pacific Railroad Company

Deborah C. Hopkins
Former Chief Executive Officer
Citi Ventures
Former Chief Innovation Officer
Citi
Board Committees: Corporate Governance and Nominating, Finance

Jane H. Lute
President and Chief Executive Officer
SICPA North America
Board Committees: Audit, Corporate Governance and Nominating

Michael R. McCarthy
Chairman
McCarthy Group, LLC
Lead Independent Director
Board Committees: Corporate Governance and Nominating (Chair),
Finance

Thomas F. McLarty III
President
McLarty Associates
Board Committees: Finance (Chair), Corporate Governance and
Nominating

Bhavesh V. Patel
Chief Executive Officer and
Chairman of the Management Board
LyondellBasell Industries N.V.
Board Committees: Finance, Compensation and Benefits

Jose H. Villarreal
Advisor
Akin, Gump, Strauss, Hauer &
Feld, LLP
Board Committees: Audit,
Compensation and Benefits

SENIOR MANAGEMENT*

Lance M. Fritz
Chairman, President and
Chief Executive Officer

Prentiss W. Bolin, Jr.
Vice President-External Relations

Bryan L. Clark
Vice President-Tax

Rhonda S. Ferguson
Executive Vice President, Chief Legal
Officer and Corporate Secretary

Robert M. Knight, Jr.
Executive Vice President
and Chief Financial Officer

Thomas A. Lischer
Executive Vice President-Operations

Scott D. Moore
Senior Vice President-Corporate
Relations and
Chief Administrative Officer

Jon T. Panzer
Vice President and Treasurer

Clark J. Ponthier
Senior Vice President-Supply Chain
And Continuous Improvement

Kenny G. Rocker
Executive Vice President-Marketing

Todd M. Rynaski
Vice President and Controller

Lynden L. Tennison
Executive Vice President and
Chief Strategy Officer

V. James Vena
Chief Operating Officer

Elizabeth F. Whited
Executive Vice President and
Chief Human Resource Officer

and Sales

*Senior management are elected officers of both Union Pacific Corporation and Union Pacific Railroad Company, except Messrs. Lischer, Ponthier and Rocker are elected officers for Union Pacific Railroad Company.

PART I

Item 1. Business

GENERAL

Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation. One of America's most recognized companies, Union Pacific Railroad Company links 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain. The Railroad's diversified business mix includes Agricultural Products, Energy, Industrial and Premium. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient and environmentally responsible manner.

Union Pacific Corporation was incorporated in Utah in 1969 and maintains its principal executive offices at 1400 Douglas Street, Omaha, NE 68179. The telephone number at that address is (402) 544-5000. The common stock of Union Pacific Corporation is listed on the New York Stock Exchange (NYSE) under the symbol "UNP".

For purposes of this report, unless the context otherwise requires, all references herein to "UPC", "Corporation", "Company", "we", "us", and "our" shall mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which we separately refer to as "UPRR" or the "Railroad".

Available Information – Our Internet website is www.up.com. We make available free of charge on our website (under the "Investors" caption link) our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; eXtensible Business Reporting Language (XBRL) documents; our current reports on Form 8-K; our proxy statements; Forms 3, 4, and 5, filed on behalf of our directors and certain executive officers; and amendments to such reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act). We provide these reports and statements as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). We also make available on our website previously filed SEC reports and exhibits via a link to EDGAR on the SEC's Internet site at www.sec.gov. Additionally, our corporate governance materials, including By-Laws, Board Committee charters, governance guidelines and policies, and codes of conduct and ethics for directors, officers, and employees are available on our website. From time to time, the corporate governance materials on our website may be updated as necessary to comply with rules issued by the SEC and the NYSE or as desirable to promote the effective and efficient governance of our Company. Any security holder wishing to receive, without charge, a copy of any of our SEC filings or corporate governance materials should send a written request to: Secretary, Union Pacific Corporation, 1400 Douglas Street, Omaha, NE 68179.

We have included the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) certifications regarding our public disclosure required by Section 302 of the Sarbanes-Oxley Act of 2002 as Exhibits 31(a) and (b) to this report.

References to our website address in this report, including references in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, are provided as a convenience and do not constitute, and should not be deemed, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

OPERATIONS

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide revenue by commodity group, we analyze the net financial results of the Railroad as one segment due to the integrated nature of our rail network. Additional information regarding our business and operations, including revenue and financial information and data and other information regarding environmental matters, is presented in Risk Factors, Item 1A; Legal Proceedings, Item 3; Selected Financial Data, Item 6; Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7; and the Financial Statements and Supplementary Data, Item 8 (which include information regarding revenues, statements of income, and total assets).

Operations – UPRR is a Class I railroad operating in the U.S. We have 32,236 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and eastern U.S. gateways and providing several corridors to key Mexican gateways. We serve the Western two-thirds of the country and maintain coordinated schedules with other rail carriers to move freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic moves through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. Our freight traffic consists of bulk, manifest, and premium business. Bulk traffic primarily consists of coal, grain, soda ash, ethanol, rock and crude oil shipped in unit trains – trains transporting a single commodity from one origin to one destination. Manifest traffic includes individual carload or less than train-load business involving commodities such as lumber, steel, paper, food and chemicals. The transportation of finished vehicles, auto parts, intermodal containers and truck trailers are included as part of our premium business. In 2018, we generated freight revenues totaling $21.4 billion from the following four commodity groups:

2018 Freight Revenue

Agricultural Products – Transportation of grains, commodities produced from these grains, fertilizer, and food and beverage products generated 21% of the Railroad's 2018 freight revenue. We access most major grain markets, linking the Midwest and Western U.S. producing areas to export terminals in the Pacific Northwest and Gulf Coast ports, as well as Mexico. We also serve significant domestic markets, including grain processors, animal feeders and ethanol producers in the Midwest, West, South and Rocky Mountain states. Fertilizer movements originate in the Gulf Coast region, the western U.S. and Canada (through interline access) for delivery to major agricultural users in the Midwest, western U.S., as well as abroad.

Energy – The Company's Energy shipments are grouped into the following three categories: (i) coal, (ii) sand and (iii) petroleum, liquid petroleum gases (LPG) and renewables. In 2018, this group generated 21% of our freight revenue. The Railroad's network supports the transportation of coal shipments to independent and regulated power companies and industrial facilities throughout the U.S. Through interchange gateways and ports, UPRR's reach extends to eastern U.S. utilities, as well as to Mexico and other international destinations. Coal traffic originating in the Powder River Basin (PRB) area of Wyoming is the largest segment of the Railroad's coal business. Demand for hydraulic fracturing sand, or frac-sand, is generated by oil and gas drilling, whereas, the Company's petroleum and LPG shipments are primarily impacted by refinery utilization rates, regional crude pricing differentials, pipeline capacity, and the use of asphalt for road programs. Renewable shipments consist primarily of biomass exports and wind turbine components.

Industrial – Our extensive network facilitates the movement of numerous commodities between thousands of origin and destination points throughout North America. The Industrial group consists of several categories, including construction, industrial chemicals, plastics, forest products, specialized products (primarily waste, lime, salt and government), metals and ores, and soda ash. Transportation of these products accounted for 27% of our freight revenue in 2018. Commercial, residential and governmental infrastructure investments drive shipments of steel, aggregates (cement components), cement and wood products. Industrial and light manufacturing plants receive steel, nonferrous materials, minerals and other raw materials.

The industrial chemicals market consists of a vast number of chemical compounds that support the manufacturing of more complex chemicals. Plastics shipments support automotive, housing, and the durable and disposable consumer goods markets. Paper and packaging commodities, as well as appliances, move to major metropolitan areas for consumers. Forest product shipments originate primarily in the Pacific Northwest or western Canada and move throughout the U.S. for use in new home construction and repair and remodeling. Oil and gas drilling generates demand for raw steel, finished pipe, stone and drilling fluid commodities. Soda ash originates in southwestern Wyoming and California, destined for chemical and glass producing markets in North America and abroad.

Premium – In 2018, the Premium franchise generated 31% of Union Pacific's total freight revenue. Our Premium franchise includes three segments: international intermodal, domestic intermodal, and finished vehicles. International business consists of import and export traffic moving in 20 or 40-foot shipping containers, that mainly passes through West Coast ports served by UP's extensive terminal network. Domestic business includes container and trailer traffic picked up and delivered within North America for intermodal marketing companies (primarily shipper agents and logistics companies), as well as truckload carriers.

We are the largest automotive carrier west of the Mississippi River and operate or access 38 vehicle distribution centers. The Railroad's extensive franchise serves five vehicle assembly plants and connects to West Coast ports, all six major Mexico gateways, and the Port of Houston to accommodate both import and export shipments. In addition to transporting finished vehicles, UPRR provides expedited handling of automotive parts in both boxcars and intermodal containers destined for Mexico, the U.S. and Canada.

Seasonality – Some of the commodities we carry have peak shipping seasons, reflecting either or both the nature of the commodity and the demand cycle for the commodity (such as certain agricultural and food products that have specific growing and harvesting seasons). The peak shipping seasons for these commodities can vary considerably each year depending upon various factors, including the strength of domestic and international economies and currencies and the strength of harvests and market prices for agricultural products.

Working Capital – At December 31, 2018, we had a working capital deficit. At December 31, 2017, we had a working capital surplus. The deficit at 2018 year-end was primarily due to an increase in upcoming debt maturities. As past years indicate, it is not unusual for us to have a working capital deficit; however, we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility, and when necessary, access to capital markets to meet any foreseeable cash requirements.

Competition – We are subject to competition from other railroads, motor carriers, ship and barge operators, and pipelines. Our main railroad competitor is Burlington Northern Santa Fe LLC. Its primary subsidiary, BNSF Railway Company (BNSF), operates parallel routes in many of our main traffic corridors. In addition, we operate in corridors served by other railroads and motor carriers. Motor carrier competition exists for all four of our commodity groups (excluding most coal shipments). Because of the proximity of our routes to major inland and Gulf Coast waterways, barges can be particularly competitive, especially for grain and bulk commodities in certain areas where we operate. In addition to price competition, we face competition with respect to transit times, quality and reliability of service from motor carriers and other railroads. Motor carriers in particular can have an advantage over railroads with respect to transit times and timeliness of service. However, railroads are much more fuel-efficient than trucks, which reduces the impact of transporting goods on the environment and public infrastructure, and we have been making efforts to convert certain truck traffic to rail. Additionally, we must build or acquire and maintain our rail system; trucks and barges are able to use public rights-of-way maintained by public entities. Any of the following could also affect the competitiveness of our transportation services for some or all of our commodities: (i) improvements or expenditures materially increasing the quality or reducing the costs of these alternative modes of transportation, (ii) legislation that eliminates or significantly increases the size or weight limitations applied to motor carriers, or (iii) legislation or regulatory changes that impose operating restrictions on railroads or that adversely affect the profitability of some or all railroad traffic. Finally, many movements face product or geographic competition where our customers can use different products (e.g. natural gas instead of coal, sorghum instead of corn) or commodities from different locations (e.g. grain from states or countries that we do not serve, crude oil from different regions). Sourcing different commodities or different locations allows shippers to substitute different carriers and such competition may reduce our volume or constrain prices. For more information regarding risks we face from competition, see the Risk Factors in Item 1A of this report.

Key Suppliers – We depend on two key domestic suppliers of high horsepower locomotives. Due to the capital intensive nature of the locomotive manufacturing business and sophistication of this equipment, potential new suppliers face high barriers of entry into this industry. Therefore, if one of these domestic suppliers discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including insolvency or bankruptcy, we could experience a significant cost increase and risk reduced availability of the locomotives that are necessary to our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical for maintenance, replacement, improvement, and expansion of our network and facilities. Rail manufacturing also has high barriers of entry, and, if one of those suppliers discontinues operations for any reason, including insolvency or bankruptcy, we could experience cost increases and difficulty obtaining rail.

Employees – Approximately 85% of our full-time employees are represented by 14 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. The most recent round of negotiations started on January 1, 2015, and throughout 2017 and 2018, we concluded new agreements with all 14 major rail unions. Existing agreements remain in effect until new agreements are ratified or until the RLA procedures are exhausted. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The next round of negotiations begins with the service of RLA Section 6 notices on or about November 1, 2019 related to years 2019-2023. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare.

Railroad Security – Our security efforts consist of a wide variety of measures including employee training, engagement with our customers, training of emergency responders, and partnerships with numerous federal, state, and local government agencies. While federal law requires us to protect the confidentiality of our security plans designed to safeguard against terrorism and other security incidents, the following provides a general overview of our security initiatives.

UPRR Security Measures – We maintain a comprehensive security plan designed to both deter and respond to any potential or actual threats as they arise. The plan includes four levels of alert status, each with its own set of countermeasures. We employ our own police force, consisting of commissioned and highly-trained officers. Our employees also undergo recurrent security and preparedness training, as well as federally-mandated hazardous materials and security training. We regularly review the sufficiency of our employee training programs. We maintain the capability to move critical operations to back-up facilities in different locations.

We operate an emergency response management center 24 hours a day. The center receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, law enforcement and other government officials. In cooperation with government officials, we monitor both threats and public events, and, as necessary, we may alter rail traffic flow at times of concern to minimize risk to communities and our operations. We comply with the hazardous materials routing rules and other requirements imposed by federal law. We also design our operating plan to expedite the movement of hazardous material shipments to minimize the time rail cars remain idle at yards and terminals located in or near major population centers. Additionally, in compliance with Transportation Security Agency regulations, we deployed information systems and instructed employees in tracking and documenting the handoff of Rail Security Sensitive Materials with customers and interchange partners.

We also have established a number of our own innovative safety and security-oriented initiatives ranging from various investments in technology to The Officer on Train program, which provides local law enforcement officers with the opportunity to ride with train crews to enhance their understanding of railroad operations and risks. Our staff of information security professionals continually assesses cyber security risks and implements mitigation programs that evolve with the changing technology threat environment. To date, we have not experienced any material disruption of our operations due to a cyber threat or attack directed at us.

Cooperation with Federal, State, and Local Government Agencies – We work closely on physical and cyber security initiatives with government agencies, including the U.S. Department of Transportation (DOT) and the Department of Homeland Security (DHS) as well as local police departments, fire departments, and other first responders. In conjunction with the Association of American Railroads (AAR), we sponsor Ask Rail, a mobile application which provides first responders with secure links to electronic information, including commodity and emergency response information required by emergency personnel to respond to accidents and other situations. We also participate in the National Joint Terrorism Task Force, a multi-agency effort established by the U.S. Department of Justice and the Federal Bureau of Investigation to combat and prevent terrorism.

We work with the Coast Guard, U.S. Customs and Border Protection (CBP), and the Military Transport Management Command, which monitor shipments entering the UPRR rail network at U.S. border crossings and ports. We were the first railroad in the U.S. to be named a partner in CBP's Customs-Trade Partnership Against Terrorism, a partnership designed to develop, enhance, and maintain effective security processes throughout the global supply chain.

Cooperation with Customers and Trade Associations – Through TransCAER (Transportation Community Awareness and Emergency Response) we work with the AAR, the American Chemistry Council, the American Petroleum Institute, and other chemical trade groups to provide communities with preparedness tools, including the training of emergency responders. In cooperation with the Federal Railroad Administration (FRA) and other interested groups, we are also working to develop additional improvements to tank car design that will further limit the risk of releases of hazardous materials.

GOVERNMENTAL AND ENVIRONMENTAL REGULATION

Governmental Regulation – Our operations are subject to a variety of federal, state, and local regulations, generally applicable to all businesses. (See also the discussion of certain regulatory proceedings in Legal Proceedings, Item 3.)

The operations of the Railroad are also subject to the regulatory jurisdiction of the Surface Transportation Board (STB). The STB has jurisdiction over rates charged on certain regulated rail traffic; common carrier service of regulated traffic; freight car compensation; transfer, extension, or abandonment of rail lines; and acquisition of control of rail common carriers. The STB continues its efforts to explore expanding rail regulation and is reviewing proposed rulemaking in various areas, including reciprocal switching, commodity exemptions, and expanding and easing procedures for smaller rate complaints. The STB also continues to develop a methodology for determining railroad revenue adequacy and the possible use of a revenue adequacy constraint in regulating railroad rates. The STB posts quarterly reports on rate reasonableness cases and maintains a database on service complaints, and has the authority to initiate investigations, among other things.

The operations of the Railroad also are subject to the regulations of the FRA and other federal and state agencies. In 2010, the FRA issued initial rules governing installation of Positive Train Control (PTC). PTC is a collision avoidance technology intended to override engineer controlled locomotives and stop train-to-train and overspeed accidents, misaligned switch derailments, and unauthorized entry to work zones. The Surface Transportation Extension Act of 2015 amended the Rail Safety Improvement Act to require implementation of PTC by the end of 2018, which deadline may be extended to December 31, 2020, provided certain other criteria are satisfied. On December 10, 2018, we received FRA approval for an alternative schedule to implement, test and refine our PTC during 2019-2020. Through 2018, we have invested approximately $2.8 billion in the ongoing development of PTC. Final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours.

DOT, the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and DHS, along with other federal agencies, have jurisdiction over certain aspects of safety, movement of hazardous materials and hazardous waste, emissions requirements, and equipment standards. Additionally, various state and local agencies have jurisdiction over disposal of hazardous waste and seek to regulate movement of hazardous materials in ways not preempted by federal law.

Environmental Regulation – We are subject to extensive federal and state environmental statutes and regulations pertaining to public health and the environment. The statutes and regulations are administered and monitored by the Environmental Protection Agency (EPA) and by various state environmental agencies. The primary laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating waste water discharges.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7 and Note 18 to the Consolidated Financial Statements in Item 8, Financial Statements and Supplementary Data.

Item 1A. Risk Factors

The information set forth in this Item 1A should be read in conjunction with the rest of the information included in this report, including Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and Financial Statements and Supplementary Data, Item 8.

We Must Manage Fluctuating Demand for Our Services and Network Capacity – If there are significant reductions in demand for rail services with respect to one or more commodities or changes in consumer preferences that affect the businesses of our customers, we may experience increased costs associated with resizing our operations, including higher unit operating costs and costs for the storage of locomotives, rail cars, and other equipment; work-force adjustments; and other related activities, which could have a material adverse effect on our results of operations, financial condition, and liquidity. If there is significant demand for our services that exceeds the designed capacity of our network, we may experience network difficulties, including congestion and reduced velocity, that could compromise the level of service we provide to our customers. This level of demand may also compound the impact of weather and weather-related events on our operations and velocity. Although we continue to improve our transportation plan, add capacity, improve operations at our yards and other facilities, and improve our ability to address surges in demand for any reason with adequate resources, we cannot be sure that these measures will fully or adequately address any service shortcomings resulting from demand exceeding our planned capacity. We may experience other operational or service difficulties related to network capacity, dramatic and unplanned fluctuations in our customers' demand for rail service with respect to one or more commodities or operating regions, or other events that could negatively impact our operational efficiency, any of which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Transport Hazardous Materials – We transport certain hazardous materials and other materials, including crude oil, ethanol, and toxic inhalation hazard (TIH) materials, such as chlorine, that pose certain risks in the event of a release or combustion. Additionally, U.S. laws impose common carrier obligations on railroads that require us to transport certain hazardous materials regardless of risk or potential exposure to loss. A rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release or combustion of hazardous materials could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation in excess of our insurance coverage for these risks, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Governmental Regulation – We are subject to governmental regulation by a significant number of federal, state, and local authorities covering a variety of health, safety, labor, environmental, economic (as discussed below), and other matters. Many laws and regulations require us to obtain and maintain various licenses, permits, and other authorizations, and we cannot guarantee that we will continue to be able to do so. Our failure to comply with applicable laws and regulations could have a material adverse effect on us. Governments or regulators may change the legislative or regulatory frameworks within which we operate without providing us any recourse to address any adverse effects on our business, including, without limitation, regulatory determinations or rules regarding dispute resolution, increasing the amount of our traffic subject to common carrier regulation, business relationships with other railroads, calculation of our cost of capital or other inputs relevant to computing our revenue adequacy, the prices we charge, and costs and expenses. Significant legislative activity in Congress or regulatory activity by the STB could expand regulation of railroad operations and prices for rail services, which could reduce capital spending on our rail network, facilities and equipment and have a material adverse effect on our results of operations, financial condition, and liquidity. As part of the Rail Safety Improvement Act of 2008, rail carriers were to implement PTC by the end of 2015 (the Rail Safety Improvement Act). The Surface Transportation Extension Act of 2015 amended the Rail Safety Improvement Act to require implementation of PTC by the end of 2018, which deadline may be extended to December 31, 2020, provided certain other criteria are satisfied. On December 10, 2018, we received approval from the FRA for an alternative schedule to implement, test and refine our PTC during 2019-2020. Final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours. This implementation could have a material adverse effect on our results of operations and financial condition. Additionally, one or more consolidations of Class I railroads could also lead to increased regulation of the rail industry.

We May Be Affected by General Economic Conditions – Prolonged severe adverse domestic and global economic conditions or disruptions of financial and credit markets may affect the producers and consumers of the commodities we carry and may have a material adverse effect on our access to liquidity and our results of operations and financial condition.

We Face Competition from Other Railroads and Other Transportation Providers – We face competition from other railroads, motor carriers, ships, barges, and pipelines. In addition to price competition, we face competition with respect to transit times and quality and reliability of service. We must build or acquire and maintain our rail system, while trucks, barges and maritime operators are able to use public rights-of-way maintained by public entities. Any future improvements or expenditures materially increasing the quality or reducing the cost of alternative modes of transportation, or legislation that eliminates or significantly increases the size or weight limitations currently applicable to motor carriers, could have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, any future consolidation of the rail industry could materially affect the competitive environment in which we operate.

We Rely on Technology and Technology Improvements in Our Business Operations – We rely on information technology in all aspects of our business. If we do not have sufficient capital to acquire new technology or if we are unable to develop or implement new technology such as PTC or the latest version of our transportation control systems, we may suffer a competitive disadvantage within the rail industry and with companies providing other modes of transportation service, which could have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, if a cyber attack or other event causes significant disruption or failure of one or more of our information technology systems, including computer hardware, software, and communications equipment, we could suffer a significant service interruption, safety failure, security breach, or other operational difficulties, which could have a material adverse impact on our results of operations, financial condition, and liquidity.

We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures – As a railroad with operations in densely populated urban areas and other cities and a vast rail network, we are exposed to the potential for various claims and litigation related to labor and employment, personal injury, property damage, environmental liability, and other matters. Any material changes to litigation trends or a catastrophic rail accident or series of accidents involving any or all of property damage, personal injury, and environmental liability that exceed our insurance coverage for such risks could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Environmental Laws and Regulations – Due to the nature of the railroad business, our operations are subject to extensive federal, state, and local environmental laws and regulations concerning, among other things, emissions to the air; discharges to waters; handling, storage, transportation, disposal of waste and other materials; and hazardous material or petroleum releases. We generate and transport hazardous and non-hazardous waste in our operations, and we did so in our former operations. Environmental liability can extend to previously owned or operated properties, leased properties, and properties owned by third parties, as well as to properties we currently own. Environmental liabilities have arisen and may also arise from claims asserted by adjacent landowners or other third parties in toxic tort litigation. We have been and may be subject to allegations or findings that we have violated, or are strictly liable under, these laws or regulations. We currently have certain obligations at existing sites for investigation, remediation and monitoring, and we likely will have obligations at other sites in the future. Liabilities for these obligations affect our estimate based on our experience and, as necessary, the advice and assistance of our consultants. However, actual costs may vary from our estimates due to any or all of several factors, including changes to environmental laws or interpretations of such laws, technological changes affecting investigations and remediation, the participation and financial viability of other parties responsible for any such liability and the corrective action or change to corrective actions required to remediate any existing or future sites. We could incur significant costs as a result of any of the foregoing, and we may be required to incur significant expenses to investigate and remediate known, unknown, or future environmental contamination, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Affected by Climate Change and Market or Regulatory Responses to Climate Change – Climate change, including the impact of global warming, could have a material adverse effect on our results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of greenhouse gasses, including diesel exhaust, could significantly increase our operating costs. Restrictions on emissions could also affect our customers that (a) use commodities that we carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities we carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers and food producers, and automakers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy or emissions reductions could materially affect the markets for the commodities we carry, which in turn could have a material adverse effect on our results of operations, financial condition, and liquidity. Government incentives encouraging the use of alternative sources of energy could also affect certain of our customers and the markets for certain of the commodities we carry in an unpredictable manner that could alter our traffic patterns, including, for example, increasing royalties charged to producers of PRB coal by the U.S. Department of Interior and the impacts of ethanol incentives on farming and ethanol producers. Finally, we could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change. Any of these factors, individually or in operation with one or more of the other factors, or other unforeseen impacts of climate change could reduce the amount of traffic we handle and have a material adverse effect on our results of operations, financial condition, and liquidity.

Severe Weather Could Result in Significant Business Interruptions and Expenditures – As a railroad with a vast network, we are exposed to severe weather conditions and other natural phenomena, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures, and significant precipitation. Line outages and other interruptions caused by these conditions can adversely affect our entire rail network and can adversely affect revenue, costs, and liabilities, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

Strikes or Work Stoppages Could Adversely Affect Our Operations – The U.S. Class I railroads are party to collective bargaining agreements with various labor unions. The majority of our employees belong to labor unions and are subject to these agreements. Disputes with regard to the terms of these agreements or our potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns, or lockouts, which could cause a significant disruption of our operations and have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could compromise our service reliability or significantly increase our costs for health care, wages, and other benefits, which could have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts at loading/unloading facilities, ports or other transport access points could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts by employees of our customers or our suppliers could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity.

The Availability of Qualified Personnel Could Adversely Affect Our Operations – Changes in demographics, training requirements, and the availability of qualified personnel could negatively affect our ability to meet demand for rail service. Unpredictable increases in demand for rail services and a lack of network fluidity may exacerbate such risks, which could have a negative impact on our operational efficiency and otherwise have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Affected By Fluctuating Fuel Prices – Fuel costs constitute a significant portion of our transportation expenses. Diesel fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on our operating results. Although we currently are able to recover a significant amount of our fuel expenses from our customers through revenue from fuel surcharges, we cannot be certain that we will always be able to mitigate rising or elevated fuel costs through our fuel surcharges. Additionally, future market conditions or legislative or regulatory activities could adversely affect our ability to apply fuel surcharges or adequately recover increased fuel costs through fuel surcharges. As fuel prices fluctuate, our fuel surcharge programs trail such fluctuations in fuel price by approximately two months, and may be a significant source of quarter-over-quarter and year-over-year volatility, particularly in periods of rapidly changing prices. International, political, and economic factors, events and conditions affect the volatility of fuel prices and supplies. Weather can also affect fuel supplies and limit domestic refining capacity. A severe shortage of, or disruption to, domestic fuel supplies could have a material adverse effect on our results of operations, financial condition, and liquidity. Alternatively, lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products we transport. However, lower fuel prices could have a negative impact on other commodities we transport, such as coal and domestic drilling-related shipments, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Utilize Capital Markets – Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, we rely on the capital markets to provide some of our capital requirements. We utilize long-term debt instruments, bank financing and commercial paper from time-to-time, and we pledge certain of our receivables. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial condition due to internal or external factors could restrict or prohibit our access to, and significantly increase the cost of, commercial paper and other financing sources, including bank credit facilities and the issuance of long-term debt, including corporate bonds. A significant deterioration of our financial condition could result in a reduction of our credit rating to below investment grade, which could restrict, or at certain credit levels below investment grade may prohibit us, from utilizing our current receivables securitization facility. This may also limit our access to external sources of capital and significantly increase the costs of short and long-term debt financing.

A Significant Portion of Our Revenue Involves Transportation of Commodities to and from International Markets – Although revenues from our operations are attributable to transportation services provided in the U.S., a significant portion of our revenues involves the transportation of commodities to and from international markets, including Mexico and Southeast Asia, by various carriers and, at times, various modes of transportation. Significant and sustained interruptions of trade with Mexico or countries in Southeast Asia, including China, could adversely affect customers and other entities that, directly or indirectly, purchase or rely on rail transportation services in the U.S. as part of their operations, and any such interruptions could have a material adverse effect on our results of operations, financial condition and liquidity. Any one or more of the following could cause a significant and sustained interruption of trade with Mexico or countries in Southeast Asia: (a) a deterioration of security for international trade and businesses; (b) the adverse impact of new laws, rules and regulations or the interpretation of laws, rules and regulations by government entities, courts or regulatory bodies, including modifications to the North American Free Trade Agreement (NAFTA) or its proposed successor called the U.S.-Mexico-Canada Agreement (USMCA) and actions of taxing authorities that affect our customers doing business in foreign countries; (c) any significant adverse economic developments, such as extended periods of high inflation, material disruptions in the banking sector or in the capital markets of these foreign countries, and significant changes in the valuation of the currencies of these foreign countries that could materially affect the cost or value of imports or exports; (d) shifts in patterns of international trade that adversely affect import and export markets; and (e) a material reduction in foreign direct investment in these countries.

We Are Subject to Legislative, Regulatory, and Legal Developments Involving Taxes – Taxes are a significant part of our expenses. We are subject to U.S. federal, state, and foreign income, payroll, property, sales and use, fuel, and other types of taxes. Changes in tax rates, such as those included in the U.S. Tax Cuts and Jobs Act, enactment of new tax laws, revisions of tax regulations, and claims or litigation with taxing authorities could result in a material effect to our results of operations, financial condition, and liquidity. Higher tax rates could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Dependent on Certain Key Suppliers of Locomotives and Rail – Due to the capital intensive nature and sophistication of locomotive equipment, parts and maintenance, potential new suppliers face high barriers to entry. Therefore, if one of the domestic suppliers of high horsepower locomotives discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including bankruptcy or insolvency, we could experience significant cost increases and reduced availability of the locomotives that are necessary for our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical to our operations for rail replacement programs, maintenance, and for adding additional network capacity, new rail and storage yards, and expansions of existing facilities. This industry similarly has high barriers to entry, and if one of these suppliers discontinues operations for any reason, including bankruptcy or insolvency, we could experience both significant cost increases for rail purchases and difficulty obtaining sufficient rail for maintenance and other projects.

We May Be Affected by Acts of Terrorism, War, or Risk of War – Our rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Terrorist attacks, or other similar events, any government response thereto, and war or risk of war may adversely affect our results of operations, financial condition, and liquidity. In addition, insurance premiums for some or all of our current coverages could increase dramatically, or certain coverages may not be available to us in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We employ a variety of assets in the management and operation of our rail business. Our rail network covers 23 states in the western two-thirds of the U.S.

Picture 5

TRACK

Our rail network includes 32,236 route miles. We own 26,039 miles and operate on the remainder pursuant to trackage rights or leases. The following table describes track miles at December 31, 2018, and 2017:

	2018	*2017*
Route	**32,236**	32,122
Other main line	**7,074**	7,107
Passing lines and turnouts	**3,274**	3,255
Switching and classification yard lines	**8,970**	9,199
Total miles	**51,554**	51,683

HEADQUARTERS BUILDING

We own our headquarters building in Omaha, Nebraska. The facility has 1.2 million square feet of space that can accommodate approximately 4,000 employees.

HARRIMAN DISPATCHING CENTER

The Harriman Dispatching Center (HDC), located in Omaha, Nebraska, is our primary dispatching facility. It is linked to regional dispatching and locomotive management facilities at various locations along our network. HDC employees coordinate moves of locomotives and trains, manage traffic and train crews on our network, and coordinate interchanges with other railroads. Approximately 900 employees currently work on-site in the facility. In the event of a disruption of operations at HDC due to a cyber attack, flooding or severe weather or other event, we maintain the capability to conduct critical operations at back-up facilities in different locations.

RAIL FACILITIES

In addition to our track structure, we operate numerous facilities, including terminals for intermodal and other freight; rail yards for building trains (classification yards), switching, storage-in-transit (the temporary storage of customer goods in rail cars prior to shipment) and other activities; offices to administer and manage our operations; dispatching centers to direct traffic on our rail network; crew quarters to house train crews along our network; and shops and other facilities for fueling, maintenance, and repair of locomotives and repair and maintenance of rail cars and other equipment. The following table includes the major yards and terminals on our system:

Major Classification Yards	*Major Intermodal Terminals*
North Platte, Nebraska	Joliet (Global 4), Illinois
North Little Rock, Arkansas	East Los Angeles, California
Englewood (Houston), Texas	ICTF (Los Angeles), California
Proviso (Chicago), Illinois	Global I (Chicago), Illinois
Fort Worth, Texas	Marion (Memphis), Tennessee
Livonia, Louisiana	DIT (Dallas), Texas
Pine Bluff, Arkansas	Mesquite, Texas
West Colton, California	Lathrop, California
Roseville, California	Global II (Chicago), Illinois
Neff (Kansas City), Missouri	City of Industry, California

RAIL EQUIPMENT

Our equipment includes owned and leased locomotives and rail cars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices, and facilities; and vehicles for maintenance, transportation of crews, and other activities. As of December 31, 2018, we owned or leased the following units of equipment:

Locomotives	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Multiple purpose	6,387	1,582	7,969	20.5
Switching	201	12	213	38.3
Other	35	57	92	39.6
Total locomotives	6,623	1,651	8,274	N/A

Freight cars	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Covered hoppers	14,001	11,784	25,785	19.7
Open hoppers	6,485	2,389	8,874	30.6
Gondolas	6,105	2,133	8,238	27.6
Boxcars	2,776	7,045	9,821	37.1
	2,372	3,269	5,641	25.4

Refrigerated cars				
Flat cars	2,404	1,057	3,461	33.6
Other	8	332	340	30.8
Total freight cars	34,151	28,009	62,160	N/A

Highway revenue equipment	Owned	Leased	Total	Average Age (yrs.)
Containers	47,752	9,005	56,757	8.2
Chassis	26,242	21,964	48,206	10.2
Total highway revenue equipment	73,994	30,969	104,963	N/A

CAPITAL EXPENDITURES

Our rail network requires significant annual capital investments for replacement, improvement, and expansion. These investments enhance safety, support the transportation needs of our customers, and improve our operational efficiency. Additionally, we add new locomotives and freight cars to our fleet to replace older, less efficient equipment, to support growth and customer demand, and to reduce our impact on the environment through the acquisition of more fuel-efficient and low-emission locomotives.

2018 Capital Program – During 2018, our capital program totaled approximately $3.2 billion. (See the cash capital investments table in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.)

2019 Capital Plan – In 2019, we expect our capital plan to be approximately $3.2 billion, flat compared to 2018. The plan includes expenditures to renew and improve our existing infrastructure as well as new capacity investments designed to support future business growth and operational efficiency. In addition, expenditures will be made for locomotive modernization and freight cars. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion of our 2019 capital plan in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.)

OTHER

Equipment Encumbrances – Equipment with a carrying value of approximately $1.8 billion and $2.0 billion at December 31, 2018, and 2017, respectively served as collateral for capital leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Environmental Matters – Certain of our properties are subject to federal, state, and local laws and regulations governing the protection of the environment. (See discussion of environmental issues in Business – Governmental and Environmental Regulation, Item 1, Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7, and Note 18 of the Consolidated Financial Statements.)

Item 3. Legal Proceedings

From time to time, we are involved in legal proceedings, claims, and litigation that occur in connection with our business. We routinely assess our liabilities and contingencies in connection with these matters based upon the latest available information and, when necessary, we seek input from our third-party advisors when making these assessments. Consistent with SEC rules and requirements, we describe below material pending legal proceedings (other than ordinary routine litigation incidental to our business), material proceedings known to be contemplated by governmental authorities, other proceedings arising under federal, state, or local environmental laws and regulations (including governmental proceedings involving potential fines, penalties, or other monetary sanctions in excess of $100,000), and such other pending matters that we may determine to be appropriate.

ENVIRONMENTAL MATTERS

District Attorneys from Placer, San Joaquin, San Bernardino and Nevada counties in California have asserted claims against Union Pacific in connection with more than 150 alleged violations of environmental laws that occurred in their counties, largely between 2011 and 2014. The alleged violations consist of violation of (1) various hazardous waste requirements, (2) Hazardous Materials Business Plan requirements, (3) above ground petroleum storage requirements, and (4) various spill requirements. The Company has entered into a Stipulation for Entry of Final Judgment with the District Attorneys to resolve their claims in connection with these matters for payment of a $2 million civil penalty, $313,000 in attorneys' fees and investigative costs, and a 3 year environmental compliance monitoring and reporting program performed under the supervision of an agreed upon outside consultant. The Stipulation, together with the District Attorneys Complaint and a Final Judgment (reflecting the terms of the Stipulation) were lodged with the Court in December 2018. The Judgment was signed on December 19, 2018.

The United States Department of Justice has asserted claims against Union Pacific in connection with a September 12, 2014 release of diesel from a locomotive fuel tank arising out of a derailment that occurred in Salem, OR. Some portion of that fuel entered Pringle Creek, which the United States asserts is a Water of the United States. The Company has agreed to resolve those claims through a Stipulation of Settlement and Judgment, pursuant to which the Company will pay $47,500 to the United States and $47,500 to the State of Oregon.

We receive notices from the EPA and state environmental agencies alleging that we are or may be liable under federal or state environmental laws for remediation costs at various sites throughout the U.S., including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7. See also Note 18 of the Consolidated Financial Statements.

OTHER MATTERS

Antitrust Litigation – As we reported in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, 20 rail shippers (many of whom are represented by the same law firms) filed virtually identical antitrust lawsuits in various federal district courts against us and four other Class I railroads in the U.S. Currently, UPRR and three other Class I railroads are the named defendants in the lawsuit. The original plaintiff filed the first of these claims in the U.S. District Court in New Jersey on May 14, 2007. The number of complaints reached a total of 30. These suits allege that the named railroads engaged in price-fixing by establishing common fuel surcharges for certain rail traffic.

On June 21, 2012, Judge Friedman issued a decision that certified a class of plaintiffs with eight named plaintiff representatives. The decision included in the class all shippers that paid a rate-based fuel surcharge to any one of the defendant railroads for rate-unregulated rail transportation from July 1, 2003, through December 31, 2008. On July 5, 2012, the defendant railroads filed a petition with the U.S. Court of Appeals for the District of Columbia requesting that the court review the class certification ruling. On August 9, 2013, the Circuit Court vacated the class certification decision and remanded the case to the district court to reconsider the class certification decision in light of a recent Supreme Court case and incomplete consideration of errors in the expert report of the plaintiffs. After reviewing an intervening case, supplemental expert materials and related briefing from the parties, Judge Friedman scheduled and completed a new class certification hearing during the week of September 26, 2016. On October 10, 2017, the parties received a ruling from Judge Friedman denying class certification. Plaintiffs have sought appellate review of that ruling and on December 20, 2017, were granted the right of an interlocutory appeal by the U.S. Court of Appeals for the District of Columbia Circuit. A hearing of the appeal was conducted on September 28, 2018. We are awaiting a decision on that hearing.

As we reported in our Current Report on Form 8-K, filed on June 10, 2011, the Railroad received a complaint filed in the U.S. District Court for the District of Columbia on June 7, 2011, by Oxbow Carbon & Minerals LLC and related entities (Oxbow). The parties are currently conducting discovery in this matter. For additional information on Oxbow, please refer to Item 3. Legal Proceedings, under Other Matters, Antitrust Litigation in our Annual Report on Form 10-K for the year ended December 31, 2016.

We continue to deny the allegations that our fuel surcharge programs violate the antitrust laws or any other laws. We believe that these lawsuits are without merit, and we will vigorously defend our actions. Therefore, we currently believe that these matters will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

In 2016, a lawsuit was filed in U.S. District Court for the Western District of Washington alleging violations of the Americans with Disabilities Act (ADA) and Genetic Information Nondiscrimination Act relating to Fitness for Duty requirements for safety sensitive positions.

On August 8, 2016, the U.S. District Court for the Western District of Washington granted plaintiffs' motion to transfer their claim to the U.S. District Court of Nebraska. On February 5, 2019, the U.S. District Court of Nebraska granted plaintiffs’ motion to certify the ADA allegations as a class action. We intend to appeal this class certification to the U.S. Court of Appeals for the 8th Circuit. We continue to deny these allegations, believe this lawsuit is without merit and will defend our actions. We believe this lawsuit will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

Item 4. <u>Mine Safety Disclosures</u>

Not applicable.

Executive Officers of the Registrant and Principal Executive Officers of Subsidiaries

The Board of Directors typically elects and designates our executive officers on an annual basis at the board meeting held in conjunction with the Annual Meeting of Shareholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year, as the Board of Directors considers appropriate. There are no family relationships among the officers, nor is there 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 current as of February 8, 2019, relating to the executive officers.

Name	Position	Age	Business Experience During Past Five Years
Lance M. Fritz	Chairman, President and Chief Executive Officer of UPC and the Railroad	56	[1]
Robert M. Knight, Jr.	Executive Vice President and Chief Financial Officer of UPC and the Railroad	61	Current Position
Rhonda S. Ferguson	Executive Vice President and Chief Legal Officer and Corporate Secretary of UPC and the Railroad	49	[2]
Thomas A. Lischer	Executive Vice President - Operations of the Railroad	46	[3]
Kenny G. Rocker	Executive Vice President - Marketing and Sales of the Railroad	47	[4]
Todd M. Rynaski	Vice President and Controller of UPC and the Railroad	48	[5]
Lynden L. Tennison	Executive Vice President and Chief Strategy Officer of UPC and the Railroad	59	[6]
V. James Vena	Chief Operating Officer of UPC and the Railroad	60	[7]
Elizabeth F. Whited	Executive Vice President and Chief Human Resources Officer of UPC and the Railroad	53	[8]

[1] *On July 30, 2015, Mr. Fritz was named Chairman of the Board of UPC and the Railroad effective October 1, 2015. Mr. Fritz was elected President and Chief Executive Officer of UPC and the Railroad effective February 5, 2015. Previously, Mr. Fritz was President and Chief Operating Officer of the Railroad effective February 6, 2014, Executive Vice President – Operations of the Railroad effective September 1, 2010, and Vice President – Operations of the Railroad effective January 1, 2010.*

[2] *Ms. Ferguson was elected Corporate Secretary of UPC and the Railroad effective December 1, 2017, and Executive Vice President and Chief Legal Officer of UPC and the Railroad effective July 11, 2016. She previously was Vice President, Corporate Secretary and Chief Ethics Officer of FirstEnergy Corp. since 2007.*

[3] *Mr. Lischer was elected Executive Vice President – Operations of the Railroad effective August 15, 2018. Previously, Mr. Lischer served as Vice President of the Harriman Dispatching Center and Network Operations for the Railroad. Prior to this election, Mr. Lischer served as Assistant Vice President of Operations for the North Region (September 2016 – April 2017), Assistant Vice President of Locomotive Distribution and Network Operations (April 2014 – September 2016), and General Superintendent of Transportation Services (February 2011 – April 2014).*

[4] *Mr. Rocker was elected Executive Vice President – Marketing and Sales of the Railroad effective August 15, 2018. Mr. Rocker previously served at the Railroad as Vice President – Marketing and Sales – Industrial team. Prior to this election, Mr. Rocker served as Assistant Vice President – Chemicals (April 2014 – September 2016) and Assistant Vice President – Industrial Products - Marketing (March 2012 – April 2014).*

[5] *Mr. Rynaski was elected Vice President and Controller of UPC and the Railroad effective September 1, 2015. He previously was Assistant Vice*

President – Accounting of the Railroad effective January 1, 2014, and Assistant Vice President – Financial Reporting and Analysis effective April 1, 2011.

[6] *Mr. Tennison was elected Executive Vice President and Chief Strategy Officer of UPC and the Railroad effective August 1, 2018. He previously was Senior Vice President and Chief Information Officer since February 2005. On January 29, 2019, Mr. Tennison announced he will retire from the Company effective March 31, 2019.*

[7] *Mr. Vena was elected Chief Operating Officer of UPC and the Railroad effective January 14, 2019. Mr. Vena previously served as Executive Vice President and Chief Operating Officer of Canadian National Railway Company (CN) from February 2013 until his retirement in June 2016.*

[8] *Ms. Whited was elected Executive Vice President and Chief Human Resources Officer of UPC and the Railroad effective August 15, 2018. She previously served as Executive Vice President and Chief Marketing Officer (December 2016 – August 2018) and Vice President and General Manager – Chemicals (October 2012 – December 2016).*

PART II

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

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "UNP".

At February 1, 2019, there were 722,877,817 shares of common stock outstanding and 30,902 common shareholders of record. On that date, the closing price of the common stock on the NYSE was $159.67. We paid dividends to our common shareholders during each of the past 119 years.

Comparison Over One- and Three-Year Periods – The following table presents the cumulative total shareholder returns, assuming reinvestment of dividends, over one- and three-year periods for the Corporation (UNP), a peer group index (comprised of CSX Corporation and Norfolk Southern Corporation), the Dow Jones Transportation Index (DJ Trans), and the Standard & Poor's 500 Stock Index (S&P 500).

Period	*UNP*	*Peer Group*	*DJ Trans*	*S&P 500*
1 Year (2018)	5.3 %	10.3 %	(12.3)%	(4.4)%
3 Year (2016 - 2018)	89.3	121.0	27.6	30.4

Five-Year Performance Comparison – The following graph provides an indicator of cumulative total shareholder returns for the Corporation as compared to the peer group index (described above), the DJ Trans, and the S&P 500. The graph assumes that $100 was invested in the common stock of Union Pacific Corporation and each index on December 31, 2013 and that all dividends were reinvested. The information below is historical in nature and is not necessarily indicative of future performance.

Picture 1

Purchases of Equity Securities – During 2018, we repurchased 57,669,746 shares of our common stock at an average price of $143.70. The following table presents common stock repurchases during each month for the fourth quarter of 2018:

Period	*Total Number of Shares Purchased [a]*	*Average Price Paid Per Share*	*Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program [b]*	*Maximum Number of Shares Remaining Under the Plan or Program [b]*
Oct. 1 through Oct. 31	6,091,605	$ 158.20	6,087,727	32,831,024
Nov. 1 through Nov. 30	3,408,467	147.91	3,402,190	29,428,834
Dec. 1 through Dec. 31	3,007,951	148.40	3,000,715	26,428,119
Total	12,508,023	$ 153.04	12,490,632	N/A

[a] Total number of shares purchased during the quarter includes approximately 17,391 shares delivered or attested to UPC by employees to pay stock option exercise prices, satisfy excess tax withholding obligations for stock option exercises or vesting of retention units, and pay withholding obligations for vesting of retention shares.

[b] Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions.

Item 6. <u>Selected Financial Data</u>

The following table presents as of, and for the years ended, December 31, our selected financial data for each of the last five years. The selected financial data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and with the Financial Statements and Supplementary Data, Item 8. The information below is historical in nature and is not necessarily indicative of future financial condition or results of operations.

Millions, Except per Share Amounts, Carloads, Employee Statistics, and Ratios	***2018***	*2017[a]*	*2016*	*2015*	*2014*
For the Year Ended December 31					
Operating revenues [b]	**$22,832**	$21,240	$19,941	$21,813	$23,988
Operating income	**8,517**	8,106	7,243	8,082	8,765
Net income	**5,966**	10,712	4,233	4,772	5,180
Earnings per share - basic [c]	**7.95**	13.42	5.09	5.51	5.77
Earnings per share - diluted [c]	**7.91**	13.36	5.07	5.49	5.75
Dividends declared per share [c]	**3.06**	2.48	2.255	2.20	1.91
Cash provided by operating activities	**8,686**	7,230	7,525	7,344	7,385
Cash used in investing activities	**(3,411)**	(3,086)	(3,393)	(4,476)	(4,249)
Cash used in financing activities	**(5,222)**	(4,146)	(4,246)	(3,063)	(2,982)
Cash used for common share repurchases	**(8,225)**	(4,013)	(3,105)	(3,465)	(3,225)
At December 31					
Total assets	**$59,147**	$57,806	$55,718	$54,600	$52,372
Long-term obligations [d]	**34,098**	29,011	32,146	30,692	27,419
Debt due after one year	**20,925**	16,144	14,249	13,607	10,952
Common shareholders' equity	**20,423**	24,856	19,932	20,702	21,189
Additional Data					
Freight revenues [b]	**$21,384**	$19,837	$18,601	$20,397	$22,560
Revenue carloads (units) (000)	**8,908**	8,588	8,442	9,062	9,625
Operating ratio (%) [e]	**62.7**	61.8	63.7	62.9	63.5
Average employees (000)	**42.0**	42.0	42.9	47.5	47.2
Financial Ratios (%)					
Return on average common shareholders' equity [f]	**26.4**	47.8	20.8	22.8	24.4

[a] 2017 includes a $5.9 billion non-cash reduction to income tax expense and $212 million non-cash reduction to operating expenses related to the Tax Cuts and Jobs Act enacted on December 22, 2017.

[b] Includes fuel surcharge revenue of $1.7 billion, $966 million, $560 million, $1.3 billion, and $2.8 billion, for 2018, 2017, 2016, 2015, and 2014, respectively, which partially offsets increased operating expenses for fuel. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations – Item 7.)

[c] Earnings per share and dividends declared per share are retroactively adjusted to reflect the June 6, 2014 stock split.

[d] Long-term obligations is determined as follows: total liabilities less current liabilities.

[e] Operating ratio is defined as operating expenses divided by operating revenues.

[f] Return on average common shareholders' equity is determined as follows: Net income divided by average common shareholders' equity.

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable notes to the Financial Statements and Supplementary Data, Item 8, and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Policies and Cautionary Information at the end of this Item 7.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable business segment. Although revenue is analyzed by commodity, we analyze the net financial results of the Railroad as one segment due to the integrated nature of the rail network.

EXECUTIVE SUMMARY

2018 Results

- **Safety** – During 2018, we continued our focus on safety to reduce risk and eliminate incidents for our employees, our customers and the public. Despite our efforts, our reportable personal injury incidents per 200,000 employee-hours of 0.82 increased 4% from 2017, which was our second best year on record. 2016 was our all-time annual record of 0.75 personal injury incidents per 200,000 employee-hours. Our reportable derailment incident rate per million train miles of 3.28 and crossing incidents rate of 2.69 increased 12% and 5%, respectively, compared to 2017. We remain intently focused on improving employee and public safety with programs such as Courage to Care, Total Safety Culture, and UP Way (our continuous improvement culture).

- **Network Operations: Unified Plan 2020** – We entered 2018 with network congestion on key routes and terminals, compounded by high freight car inventory levels that negatively impacted operational performance during the first half of the year. On October 1, 2018, we began implementation of the first phase of our Unified Plan 2020, which included several initiatives focused on increasing reliability of our service product, reducing variability in network operations, and improving resource utilization costs.

As a result, network operations improved significantly as we progressed throughout the fourth quarter. We reduced our active locomotive fleet by 625 locomotives and reduced operating car inventory by more than 10% compared to September 30, 2018, while handling relatively similar volume levels. As reference, average terminal dwell, as reported to the AAR improved 14% to 26.7 hours in the fourth quarter compared to the first half of 2018. On a full year basis, average terminal dwell improved 2% while average train speed decreased 4% compared to 2017. Additional details on our Unified Plan 2020 goals and implementation schedule are included in the “2019 Outlook” section of Item 7.

- **Freight Revenues** – Our freight revenues increased 8% year-over-year to $21.4 billion driven by volume growth of 4%, higher fuel surcharge revenue, and core pricing gains, partially offset by negative mix of traffic. Growth in international and domestic intermodal, petroleum products, metals, rock, plastics, and industrial chemical shipments more than offset declines in coal, grain, and frac sand shipments.

- **Financial Results** – In 2018, we generated operating income of more than $8.5 billion, an 8% increase compared to 2017 adjusted results (non-GAAP)[1]. Volume growth, combined with core pricing and productivity gains, generated solid financial performance improvement and more than offset the impact of excess network costs, higher fuel prices, and other cost hurdles, including state and local taxes, depreciation, and inflation. Excess network costs include additional expenses associated with operational efficiencies resulting in higher Train, Engine and Yard (TE&Y) labor expenses, fuel consumption inefficiencies, maintenance costs on a larger, active locomotive fleet, and higher freight car rent expense due to slower asset turns. Our 2018 operating ratio was an all-time record 62.7%, improving 0.1 point from 2017 adjusted results (non-GAAP)[1]. Net income of nearly $6.0 billion translated into earnings of $7.91 per diluted share.

[1] For comparability purposes, the following table reconciles our full year 2017 reported results under accounting principles generally accepted in the U.S. (GAAP) to our 2017 adjusted results (non-GAAP) for tax related items recognized in 2017. We believe the adjusted results provide relevant information to our investors as they more accurately reflect on-going financial performance. In addition, these measures should be considered in addition to, and not a substitute for operating income, income taxes, net income, diluted EPS, operating ratio, and effective tax rate.

Millions, Except Per Share Amounts and Percentages		*Operating Income*	*Income Taxes*	*Net Income*	*Diluted EPS*	*Operating Ratio*	*Effective Tax Rate*
2017 Reported results* (GAAP)	$	8,106	$(3,080)	$10,712	$ 13.36	61.8 %	(40.4)%
Factors Affecting Comparability:							
Adjustments for Tax Cuts and Jobs Act							
Equity-method affiliates		(212)	(73)	(139)	(0.17)	1.0 pts	-
Deferred taxes		-	5,935	(5,935)	(7.40)	-	77.9
2017 Adjusted results (non-GAAP)	$	7,894	$ 2,782	$ 4,638	$ 5.79	62.8 %	37.5 %

**Adjusted for the retrospective adoption of ASU 2017-07 which was effective January 1, 2018.*

- **Fuel Prices** – Our average price of diesel fuel in 2018 was $2.29 per gallon, an increase of 27% from 2017, as both crude oil and conversion spreads between crude oil and diesel increased in 2018. The higher price resulted in increased operating expenses of $507 million (excluding any impact from year-over-year volume growth). Gross-ton miles and our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles, both increased 3%, which also drove higher fuel expense.

- **Free Cash Flow** – Cash generated by operating activities totaled nearly $8.7 billion, yielding free cash flow of $3.0 billion after reductions of $3.4 billion for cash used in investing activities and $2.3 billion in dividends, which included a 20% increase in our quarterly dividend per share from $0.665 in the fourth quarter of 2017 to $0.80 in the fourth quarter of 2018. Free cash flow is defined as cash provided by operating activities less cash used in investing activities and dividends paid.

Free cash flow is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe free cash flow is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financings. Free cash flow should be considered in addition to, rather than as a substitute for, cash provided by operating activities. The following table reconciles cash provided by operating activities (GAAP measure) to free cash flow (non-GAAP measure):

Millions	***2018***	*2017*	*2016*
Cash provided by operating activities	**$ 8,686**	$ 7,230	$ 7,525
Cash used in investing activities	**(3,411)**	(3,086)	(3,393)
Dividends paid	**(2,299)**	(1,982)	(1,879)
Free cash flow	**$ 2,976**	$ 2,162	$ 2,253

2019 Outlook

- **Safety** – Operating a safe railroad benefits all our constituents: our employees, customers, shareholders and the communities we serve. We will continue using a multi-faceted approach to safety, utilizing technology, risk assessment, training and employee engagement, quality control, and targeted capital investments. We will continue using and expanding the deployment of Total Safety Culture and Courage to Care throughout our operations, which allows us to identify and implement best practices for employee and operational safety. We will continue our efforts to increase detection of rail defects; improve or close crossings; and educate the public and law enforcement agencies about crossing safety through a combination of our own programs (including risk assessment strategies), industry programs and local community activities across our network.

Network Operations – In 2019, we will continue to implement our G55+0 and Unified Plan 2020 initiatives to further increase reliability of our service product, reduce variability in network operations, and improve resource utilization. We began implementation of Phase 1 on October 1, 2018 which included our north to south Mid-America corridor, and was substantially completed in late 2018. Phase 1 included approximately 160 changes to our transportation plan in that territory. In November of 2018, we began the planning phase of implementation on the Sunset Route and on the two rail corridors between Los Angeles and Chicago. Planning for the third phase, which includes the Pacific Northwest and Northern California, began in late January of 2019. We expect full implementation of all phases of the Unified Plan 2020 by mid-2019. Beyond the initial implementation of Unified Plan 2020, we will continue to evaluate the entire network and make further changes as warranted.

In addition, we are working through a terminal rationalization process to more fully optimize our train operations and crew resources. These potential changes, combined with other G55+0 initiatives, are designed to better align our management structure and decision making processes in conjunction with our Unified Plan 2020 operating model.

- **Fuel Prices** – Fuel price projections for crude oil and natural gas continue to fluctuate in the current environment. We again could see volatile fuel prices during the year, as they are sensitive to global and U.S. domestic demand, refining capacity, geopolitical events, weather conditions and other factors. As prices fluctuate, there will be a timing impact on earnings, as our fuel surcharge programs trail increases or decreases in fuel price by approximately two months.

Lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products that we transport. Alternatively, lower fuel prices could likely have a negative impact on other commodities such as coal and domestic drilling-related shipments.

- **Capital Plan** – In 2019, we expect our capital plan to be approximately $3.2 billion, flat compared to 2018. The plan includes expenditures to renew and improve our existing infrastructure as well as new capacity investments designed to support future business growth and operational efficiency. In addition, expenditures will be made for locomotive modernization and freight cars. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion in this Item 7 under Liquidity and Capital Resources – Capital Plan).

- **Financial Expectations** – Economic conditions in many of our market sectors continue to drive uncertainty with respect to our volume levels. Although we expect volume to grow in the low single digit range in 2019 compared to 2018, uncertainties in energy markets and prices, consumer purchases, inflation, and both domestic and international economies will have an impact. In the current environment, we expect continued margin improvement driven by continued pricing opportunities, ongoing G55+0 productivity initiatives, and full implementation of our Unified Plan 2020 to better leverage our resources and strengthen our franchise.

RESULTS OF OPERATIONS

Operating Revenues

Millions	***2018***	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Freight revenues	**$21,384**	$19,837	$18,601	**8 %**	7 %
Other subsidiary revenues	**881**	885	814	**-**	9
Accessorial revenues	**502**	458	455	**10**	1
Other	**65**	60	71	**8**	(15)
Total	**$22,832**	$21,240	$19,941	**7 %**	7 %

We generate freight revenues by transporting freight or other materials from our four commodity groups. Freight revenues vary with volume (carloads) and average revenue per car (ARC). Changes in price, traffic mix and fuel surcharges drive ARC. We provide some of our customers with contractual incentives for meeting or exceeding specified cumulative volumes or shipping to and from specific locations, which we record as reductions to freight revenues based on the actual or projected future shipments. We recognize freight revenues as shipments move from origin to destination. We allocate freight revenues between reporting periods based on the relative transit time in each reporting period and recognize expenses as we incur them.

Other revenues include revenues earned by our subsidiaries, revenues from commuter rail operations that we manage, accessorial revenues, which we earn when customers retain equipment owned or controlled by us or when we perform additional services such as switching or storage, and miscellaneous contract revenue. We recognize other revenues as we perform services or meet contractual obligations.

Freight revenues increased 8% year-over-year to $21.4 billion driven by 4% volume growth, higher fuel surcharge revenue, and core pricing gains, partially offset by negative mix of traffic. Growth in international and domestic intermodal, petroleum products, metals, rock, plastics, and industrial chemical shipments more than offset declines in coal, grain, and frac sand shipments.

Freight revenues increased 7% in 2017 to $19.8 billion driven by volume growth of 2%, higher fuel surcharge revenue, and core pricing gains. Growth in frac sand, coal, and intermodal shipments more than offset declines in grain, crude oil, finished vehicles, and rock shipments.

Our fuel surcharge programs generated freight revenues of $1.7 billion, $966 million, and $560 million in 2018, 2017, and 2016, respectively. Fuel surcharge revenue in 2018 increased $769 million as a result of a 27% increase in fuel price and 4% growth in carloadings. Fuel surcharge revenue in 2017 increased $406 million as a result of a 22% increase in fuel price, a 2% growth in carloadings, and the lag impact on fuel surcharge (it can generally take up to two months for changing fuel prices to affect fuel surcharge recoveries).

In 2018, other revenues increased from 2017 driven by higher accessorial revenues associated with carload and container volume growth.

In 2017, other revenues increased from 2016 due to higher revenues at our subsidiaries, primarily those that broker intermodal, transload, and refrigerated warehousing logistics services.

The following tables summarize the year-over-year changes in freight revenues, revenue carloads, and ARC by commodity type:

Freight Revenues *Millions*	**2018**	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Agricultural Products	**$ 4,469**	$ 4,303	$ 4,209	**4 %**	2 %
Energy	**4,608**	4,498	3,715	**2**	21
Industrial	**5,679**	5,204	4,964	**9**	5
Premium	**6,628**	5,832	5,713	**14**	2
Total	**$21,384**	$19,837	$18,601	**8 %**	7 %

Revenue Carloads *Thousands*	**2018**	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Agricultural Products	**1,124**	1,141	1,151	**(1)%**	(1)%
Energy	**1,650**	1,676	1,510	**(2)**	11
Industrial	**1,752**	1,655	1,656	**6**	-
Premium [a]	**4,382**	4,116	4,125	**6**	-
Total	**8,908**	8,588	8,442	**4 %**	2 %

Average Revenue per Car	**2018**	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Agricultural Products	**$ 3,973**	$ 3,770	$ 3,657	**5 %**	3 %
Energy	**2,793**	2,685	2,461	**4**	9
Industrial	**3,241**	3,145	2,996	**3**	5
Premium	**1,513**	1,417	1,385	**7**	2
Average	**$ 2,400**	$ 2,310	$ 2,203	**4 %**	5 %

[a] For intermodal shipments, each container or trailer equals one carload.

Agricultural Products – Freight revenue from agricultural products increased in 2018 compared to 2017 driven by core pricing gains and higher fuel surcharge revenue, partially offset by a 1% decrease in volume. Grain shipments decreased 8% in 2018 compared to 2017 largely due to lower export wheat shipments reflecting weaker U.S. competitiveness in the global market throughout 2018. Conversely, fertilizer shipments increased 7% and grain products shipments increased 4% versus 2017 driven by continued strength in potash exports and higher export ethanol shipments.

2018 Agricultural Products Carloads

Picture 11

Freight revenue from agricultural products increased in 2017 compared to 2016 driven by core pricing gains and higher fuel surcharge revenue, partially offset by a 1% decrease in volume. Grain and grain product shipments decreased 3% in 2017 compared to 2016. Strong export demand for wheat drove volume growth in the first half of the year, which was more than offset by declines of grain shipments in the second half of the year due to an abundance of global supply reducing U.S. grain competitiveness. Conversely, fertilizer shipments increased 7% as a result of continued strength in potash exports.

Energy – Freight revenue from energy shipments increased in 2018 compared to 2017 due to higher fuel surcharge revenue and mix of traffic, which was partially offset by a 2% decline in volume. Coal and coke shipments, which represented 73% of energy shipments in 2017, declined 5% due to a commercial contract loss and certain UP-served facility retirements. Frac sand shipments also declined largely due to regional sand supplies in the Permian displacing select shipments originating from the upper Midwest. Conversely, petroleum products shipments increased due to continued strong drilling activity.

2018 Energy Carloads

Volume growth of 11% and higher fuel surcharge revenue drove an increase in freight revenue from energy shipments in 2017 compared to 2016. Shipments out of the Powder River Basin (PRB) grew 5% driven by strong growth in the first half of the year due to higher year-over-year natural gas prices and lower inventory levels at utilities. Shipments out of Colorado and Utah increased 7% compared to 2016 due to the same drivers, combined with stronger export demand. In addition, increased shale drilling activity and proppant intensity per drilling well drove substantial volume growth in frac sand shipments versus 2016.

2018 Industrial Carloads

Industrial – Freight revenue from industrial shipments increased in 2018 versus 2017 due to volume growth, core pricing gains, and higher fuel surcharge revenue, which was partially offset by negative mix of traffic. Volume grew 6% compared to 2017 due to stronger industrial production that drove growth in metals and ores, construction products, plastics, and industrial chemicals shipments. In addition, lumber shipments increased due to growth in end use demand compared to 2017.

Freight revenue from industrial shipments increased in 2017 versus 2016 due to core pricing gains and higher fuel surcharge revenue.

Picture 13

Volumes were flat as growth in shipments of metals, waste, and government shipments were offset by declines in construction materials due to inclement weather in the West in the first half of the year, combined with decreased construction activity in Texas and lower industrial chemical shipments.

Premium – Freight revenue from premium shipments increased in 2018 compared to 2017 driven by volume growth, higher fuel surcharge revenue, and core pricing gains, partially offset by negative mix of traffic. Volume grew 6% driven by 9% growth in international intermodal, including newly secured business in 2018 and a fourth quarter surge in shipments. In addition, domestic intermodal shipments, including containerized automotive parts, increased as a result of tighter truck capacity, increased production at certain auto parts facilities, and continued truck-to-rail conversions.

2018 Premium Carloads

Higher fuel surcharge revenue and core pricing gains drove an increase in freight revenue from premium shipments in 2017 compared to 2016. Volumes were flat as a 1% growth in international shipments was muted by flat domestic shipments (including containerized automotive parts) due to available truck capacity during most of 2017, which offset a strong holiday shipping season in the fourth quarter. In addition, shipments of finished vehicles fell 7% in 2017 resulting from lower domestic sales and reduced production for certain manufactures.

Mexico Business – Each of our commodity groups includes revenue from shipments to and from Mexico. Freight revenue from Mexico business was $2.5 billion in 2018, up 10% compared to 2017, driven by 1% volume growth, fuel surcharge revenue, and core pricing gains. The increase in volume was driven by higher shipments of corn and feed grains, coal, and finished vehicles, partially offset by declines in automotive parts and intermodal shipments.

Freight revenue from Mexico business was $2.3 billion in 2017, up 2% compared to 2016. Core pricing gains and higher fuel surcharge revenue more than offset the 1% volume decline. The decrease in volume was driven by lower shipments of automotive parts, partially offset by growth in coal and refined petroleum products shipments.

Operating Expenses

Millions	**2018**	*2017*	*2016*	**% Change 2018 v 2017**	*% Change 2017 v 2016*
Compensation and benefits	**$ 5,056**	$ 4,939	$ 4,779	**2 %**	3 %
Fuel	**2,531**	1,891	1,489	**34**	27
Purchased services and materials	**2,443**	2,363	2,258	**3**	5
Depreciation	**2,191**	2,105	2,038	**4**	3
Equipment and other rents	**1,072**	888	1,137	**21**	(22)
Other	**1,022**	948	997	**8**	(5)
Total	**$14,315**	$13,134	$12,698	**9 %**	3 %

2018 Operating Expenses

Picture 18

Operating expenses increased $1,181 million in 2018 compared to 2017 driven by higher fuel prices, excess network costs, volume-related expenses, depreciation, and inflation. In addition, 2017 results included a $212 million reduction to rent expense related to income tax adjustments at certain equity-method affiliates. Productivity savings, lower management and administrative wage and benefit costs, lower locomotive and freight car lease expenses, joint facility, and personal injury costs partially offset these increases.

Operating expenses increased $436 million in 2017 compared to 2016 driven by higher fuel prices, inflation, $86 million of expenses related to the third quarter workforce reduction plan, depreciation, contract services, and volume-related costs. Partially offsetting these increases was a $212 million reduction to operating expense related to income tax adjustments at certain equity-method affiliates, continued productivity gains, lower locomotive and freight car lease expense, and lower environmental, personal injury, and joint facility costs.

Compensation and Benefits – Compensation and benefits include wages, payroll taxes, health and welfare costs, pension costs, other postretirement benefits, and incentive costs. In 2018, expenses increased 2% compared to 2017, due to volume-related costs, excess network costs, higher training expenses for trainmen, and wage inflation. Lower management and administrative wage and benefit costs partially offset these increases.

In 2017, expenses increased 3% compared to 2016, driven by general wage and benefit inflation, $86 million of expenses associated with the workforce reduction plan, volume-related costs, and higher training expenses for trainmen, which were partially offset by resource productivity gains.

Fuel – Fuel includes locomotive fuel and gasoline for highway and non-highway vehicles and heavy equipment. Locomotive diesel fuel prices, which averaged $2.29 per gallon (including taxes and transportation costs) in 2018, compared to $1.81 per gallon in 2017, increased expenses $507 million. In addition, gross-ton miles and the fuel consumption rate (c-rate) both increased 3% in 2018, also driving higher fuel expense compared to 2017. The c-rate is computed as gallons of fuel consumed divided by gross ton-miles in thousands.

Locomotive diesel fuel prices, which averaged $1.81 per gallon (including taxes and transportation costs) in 2017, compared to $1.48 per gallon in 2016, increased expenses $334 million. In addition, fuel costs were higher as gross-ton miles increased 5% compared to 2016. The c-rate improved 2% compared to 2016.

Purchased Services and Materials – Expense for purchased services and materials includes the costs of services purchased from outside contractors and other service providers (including equipment maintenance and contract expenses incurred by our subsidiaries for external transportation services); materials used to maintain the Railroad's lines, structures, and equipment; costs of operating facilities jointly used by UPRR and other railroads; transportation and lodging for train crew employees; trucking and contracting costs for intermodal containers; leased automobile maintenance expenses; and tools and supplies. Purchased services and materials increased 3% in 2018 compared to 2017 primarily due to volume-related costs, inflationary cost pressures on transportation-related contract services incurred at our subsidiaries that broker intermodal and transload services, and higher locomotive repair costs due to the larger active fleet in service. Lower joint facility expenses partially offset these increases.

Purchased services and materials increased 5% in 2017 compared to 2016 primarily due to volume-related costs (including higher subsidiary contract services) and Hurricane Harvey-related contract service costs, which were partially offset by lower joint facility expenses.

Depreciation – The majority of depreciation relates to road property, including rail, ties, ballast, and other track material. A higher depreciable asset base increased depreciation expense in 2018 compared to 2017.

A higher depreciable asset base increased depreciation expense in 2017 compared to 2016. This increase was partially offset by our recent depreciation studies that resulted in lower depreciation rates for some asset classes.

Equipment and Other Rents – Equipment and other rents expense primarily includes rental expense that the Railroad pays for freight cars owned by other railroads or private companies; freight car, intermodal, and locomotive leases; and office and other rent expenses. Equity income from certain equity method investments is also included. Equipment and other rents expense increased $184 million compared to 2017 largely driven by a $212 million reduction to 2017 rent expense related to income tax adjustments at certain equity-method affiliates as a result of the lower federal tax rate implemented January 1, 2018. Increased car rent expense due to volume growth and slower network velocity also contributed to the increase. Lower locomotive and freight car lease expenses in 2018 partially offset these increases.

Equipment and other rents expense decreased $249 million compared to 2016. $212 million of the reduction was due to income tax adjustments at certain equity-method affiliates. Lower locomotive and freight car lease expense also contributed to the year-over-year decrease. Conversely, increased car rent expense due to volume growth in certain markets partially offset these decreases.

Other – Other expenses include state and local taxes, freight, equipment and property damage, utilities, insurance, personal injury, environmental, employee travel, telephone and cellular, computer software, bad debt, and other general expenses. Other expenses increased 8% in 2018 compared to 2017 as a result of higher state and local taxes and environmental expenses related to our operating properties. Lower personal injury expense, an insurance reimbursement for lost revenue and expenses incurred during Hurricane Harvey in 2017, and reduced costs for destroyed equipment owned by third parties and lower freight damage expense partially offset these increases.

Other expenses decreased 5% in 2017 compared to 2016 as a result of lower environmental and personal injury expenses, and higher bad debt expense in 2016 resulting from a customer bankruptcy. Conversely, increased costs associated with destroyed equipment owned by third parties, and higher property and damaged freight costs partially offset these decreases.

Non-Operating Items

Millions	***2018***	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Other income	**$ 94**	$ 245	$ 221	**(62)%**	11 %

Interest expense	**(870)**	(719)	(698)	**21**	3
Income tax benefit/(expense)	**(1,775)**	3,080	(2,533)	**U**	F

Other Income – Other income decreased in 2018 compared to 2017 largely as a result of a $65 million gain on a litigation settlement for back rent and a $57 million real estate gain, both recognized in the third quarter of 2017. In addition, an $85 million expense associated with early-extinguishment of outstanding debentures and mortgage bonds recognized in the first quarter of 2018 also contributed to the decrease. Higher interest income earned in 2018 partially offset these decreases.

Other income increased in 2017 compared to 2016 primarily as a result of a $65 million gain on a litigation settlement for back rent and a $57 million real estate sale gain, both recognized in the third quarter of 2017. Rental income also increased in 2017 compared to 2016.

Interest Expense – Interest expense increased in 2018 compared to 2017 due to an increased weighted-average debt level of $20.1 billion in 2018 from $15.9 billion in 2017, partially offset by the impact of a lower effective interest rate of 4.4% in 2018 compared to 4.6 % in 2017.

Interest expense increased in 2017 compared to 2016 due to an increased weighted-average debt level of $15.9 billion in 2017 from $15.0 billion in 2016, partially offset by the impact of a lower effective interest rate of 4.6% in 2017 compared to 4.7% in 2016.

Income Taxes – Income tax expense was $1.8 billion in 2018 compared to a benefit of $3.1 billion in 2017. The Tax Cuts and Jobs Act was enacted on December 22, 2017 and reduced the federal income tax rate from 35% to 21% effective January 1, 2018. Consequently, we remeasured our deferred tax assets and liabilities, resulting in a $5.9 billion non-cash reduction in our income tax expense in 2017.

Our effective tax rate for 2018 was 22.9% compared to (40.4)% in 2017. The 2018 effective tax rate declined due to decreases in the corporate state income tax rates in Iowa and Missouri. The 2017 rate was substantially reduced by the impact of the Tax Act, which resulted in a $5.9 billion non-cash reduction in our 2017 tax expense.

OTHER OPERATING/PERFORMANCE AND FINANCIAL STATISTICS

We report a number of key performance measures weekly to the AAR. We provide this data on our website at www.up.com/investor/aar-stb_reports/index.htm.

Operating/Performance Statistics

Railroad performance measures are included in the table below:

	2018	*2017*	*2016*	***% Change 2018 v 2017***	*% Change 2017 v 2016*
Average train speed (miles per hour)	**24.5**	25.4	26.6	**(4)%**	(5)%
Average terminal dwell time (hours)	**29.6**	30.3	28.1	**(2)%**	8 %
Gross ton-miles (billions)	**928.6**	898.7	856.9	**3 %**	5 %
Revenue ton-miles (billions)	**474.0**	466.7	440.1	**2 %**	6 %
Operating ratio	**62.7**	61.8	63.7	**0.9 pts**	(1.9)pts
Employees (average)	**41,967**	41,992	42,919	**-%**	(2)%

Average Train Speed – Average train speed is calculated by dividing train miles by hours operated on our main lines between terminals. Average train speed, as reported to the AAR, declined 4% in 2018 compared to 2017 largely driven by network congestion on key routes and terminals combined with high freight car inventory levels during the first half of the year, somewhat offset by implementation of the first phase of our Unified Plan 2020 in late third quarter 2018. Continued implementation and testing of PTC across a larger portion of our network also negatively impacted overall average train speed throughout the year.

Average train speed declined 5% in 2017 compared to 2016 as disruptions across our network, including the impact of Hurricane Harvey, negatively impacted network fluidity. Continued implementation and testing of Positive Train Control across a growing number of routes in our network combined with operational challenges also negatively impacted overall average train speed.

Average Terminal Dwell Time – Average terminal dwell time is the average time that a rail car spends at our terminals. Lower average terminal dwell time improves asset utilization and service. Average terminal dwell time decreased 2% in 2018 compared to 2017 driven by an 18% improvement in the fourth quarter compared to the same period in 2017. Implementation of the first phase of our Unified Plan 2020 in late-third quarter 2018 drove the improvement, more than offsetting the impact of network congestion and high inventory levels experienced in the first half of the year.

Average terminal dwell time increased 8% in 2017 compared to 2016 resulting from network disruptions and operational challenges which negatively impacted network fluidity.

Gross and Revenue Ton-Miles – Gross ton-miles are calculated by multiplying the weight of loaded and empty freight cars by the number of miles hauled. Revenue ton-miles are calculated by multiplying the weight of freight by the number of tariff miles. Gross ton-miles and revenue ton-miles increased 3% and

2%, respectively in 2018 compared to 2017, resulting from a 4% increase in carloads. Changes in commodity mix drove the variances in year-over-year increases between gross ton-miles, revenue ton-miles, and carloads.

Gross ton-miles and revenue ton-miles increased 5% and 6%, respectively in 2017 compared to 2016, resulting from a 2% increase in carloads. Changes in commodity mix drove the variances in year-over-year increases between gross ton-miles, revenue ton-miles, and carloads.

Operating Ratio – Operating ratio is our operating expenses reflected as a percentage of operating revenue. Our operating ratio increased 0.9 points to 62.7% in 2018 compared to 2017. Income tax adjustments recognized in 2017 at our equity-method affiliates resulted in one point of the increase. Core pricing gains and volume growth, mostly offset by excess network costs, higher fuel prices, and inflation, drove 0.1 point of operating ratio improvement.

Our operating ratio improved 1.9 points to 61.8% in 2017 compared to 2016. Income tax adjustments recognized in 2017 at our equity-method affiliates drove one point of the improvement. Core pricing gains, volume growth, and productivity savings more than offset higher inflation, higher fuel prices, and other expenses to drive 0.9 points of operating ratio improvement.

Employees – Employee levels were flat in 2018 compared to 2017 as a smaller capital workforce and fewer management and administrative personnel offset the impact of 4% volume growth, which contributed to an increase in TE&Y employees.

Employee levels decreased 2% in 2017 compared to 2016, driven by productivity gains, a smaller capital workforce, and fewer management and administrative personnel, which more than offset the impact of 2% volume growth.

Return on Average Common Shareholders' Equity

Millions, Except Percentages	***2018***	*2017*	*2016*
Net income	**$ 5,966**	$10,712	$ 4,233
Average equity	**$22,640**	$22,394	$20,317
Return on average common shareholders' equity	**26.4%**	47.8%	20.8%

Return on Invested Capital as Adjusted (ROIC)

Millions, Except Percentages	***2018***	*2017*	*2016*
Net income	**$ 5,966**	$10,712	$ 4,233
Interest expense	**870**	719	698
Interest on average present value of operating leases	**82**	105	121
Taxes on interest	**(218)**	(309)	(306)
Net operating profit after taxes as adjusted (a)	**$ 6,700**	$11,227	$ 4,746
Average equity	**$22,640**	$22,394	$20,317
Average debt	**19,668**	15,976	14,604
Average present value of operating leases	**2,206**	2,288	2,581
Average invested capital as adjusted (b)	**$44,514**	$40,658	$37,502
Return on invested capital as adjusted (a/b)	**15.1%**	27.6%	12.7%

ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. In addition, we currently use ROIC as a performance criteria in determining certain elements of equity compensation for our executives. ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity. The tables above provide reconciliations from return on average common shareholders' equity to ROIC. At December 31, 2018, in transition to the adoption of the new lease accounting standard on January 1, 2019, the incremental borrowing rate on operating leases was 3.7%. At December 31, 2017 and December 31, 2016, operating leases were discounted using our effective interest rate on debt of 4.6% and 4.7%, respectively. Our 2018 ROIC of 15.1% decreased compared to 2017, largely as a result of the income tax benefit recognized in 2017 related to the $5.9 billion reduction in our deferred tax liability (See Note 8 of the Consolidated Financial Statements for additional information).

Net Return on Invested Capital as Adjusted (Net ROIC)

The table below reconciles ROIC as previously calculated to Net ROIC for items affecting comparability.

	2018	*2017*	*2016*
Return on invested capital as adjusted	**15.1%**	27.6%	12.7%
Factors Affecting Comparability:			
Adjustments for Tax Cuts and Jobs Act [a]	N/A	(13.9)	N/A
Net Return on Invested Capital as Adjusted	**15.1%**	13.7%	12.7%

[a] Adjustments remove the impact of $5.9 billion and $139 million from both 12/31/17 Net Income and 12/31/17 Shareholders' Equity.

Net ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. We use Net ROIC to demonstrate year over year comparability for significant items. Net ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity.

Adjusted Debt / Adjusted EBITDA

Millions, Except Ratios for the Twelve Months Ended	***Dec. 31, 2018***	*Dec. 31, 2017*	*Dec. 31, 2016*
Net income	**$ 5,966**	$10,712	$ 4,233
Less:			
Other income	**94**	245	221
Add:			
Income tax expense/(benefit)	**1,775**	(3,080)	2,533
Depreciation	**2,191**	2,105	2,038
Interest expense	**870**	719	698
EBITDA	**$10,708**	$10,211	$ 9,281
Interest on present value of operating leases	**84**	98	114
Adjusted EBITDA (a)	**$10,792**	$10,309	$ 9,395
Debt	**$22,391**	$16,944	$15,007
Net present value of operating leases	**2,271**	2,140	2,435
Unfunded pension and OPEB,			
net of taxes of $135, $238, and $261	**456**	396	436
Adjusted debt (b)	**$25,118**	$19,480	$17,878
Adjusted debt / Adjusted EBITDA (b/a)	**2.3**	1.9	1.9

Adjusted debt to Adjusted EBITDA (earnings before interest, taxes, depreciation, amortization and interest on present value of operating leases) is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the Company's ability to sustain given debt levels (including leases) with the cash generated from operations. In addition, a comparable measure is used by rating agencies when reviewing the Company's credit rating. Adjusted debt to Adjusted EBITDA should be considered in addition to, rather than as a substitute for, net income. The table above provides reconciliations from net income to adjusted debt to adjusted EBITDA. At December 31, 2018, in transition to the adoption of the new lease accounting standard on January 1, 2019, the incremental borrowing rate on operating leases was 3.7%. At December 31, 2017 and December 31, 2016, operating leases were discounted using our effective interest rate on debt of 4.6% and 4.7%, respectively.

LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2018, we had a working capital deficit. At December 31, 2017, we had a working capital surplus. The deficit at 2018 year-end was primarily due to an increase in upcoming debt maturities. As past years indicate, it is not unusual for us to have a working capital deficit; however, we believe it is not an indication of a lack of liquidity. We also maintain adequate resources, including our credit facility, and when necessary, access to capital markets to meet any foreseeable cash requirements.

As of December 31, 2018, our principal sources of liquidity included cash, cash equivalents, our receivables securitization facility, and our revolving credit facility, as well as the availability of commercial paper and other sources of financing through the capital markets. We had $2.0 billion of committed credit available under our credit facility, with no borrowings outstanding as of December 31, 2018. We did not draw on our current facility or previous facility at any time during 2018. The value of the outstanding undivided interest held by investors under the $650 million capacity receivables securitization facility was $400 million as of December 31, 2018. Our access to this receivables securitization facility may be reduced or restricted if our bond ratings fall to certain levels below investment grade. If our bond rating were to deteriorate, it could have an adverse impact on our liquidity. Access to commercial paper as well as other capital market financings is dependent on market conditions. Deterioration of our operating results or financial condition due to internal or external factors could negatively impact our ability to access capital markets as a source of liquidity. Access to liquidity through the capital markets is also dependent on our financial stability. We expect that we will continue to have access to liquidity through any or all of the following sources or activities: (i) increasing the size or utilization of our receivables securitization, (ii) issuing commercial paper, (iii) entering into bank loans, outside of our revolving credit facility, or (iv) issuing bonds or other debt securities to public or private investors based on our assessment of the current condition of the credit markets. The Company's $2.0 billion revolving credit facility is intended to support the issuance of commercial paper by UPC and also serves as an additional source of liquidity to fund short term needs. The Company currently does not intend to make any borrowings under this facility.

Cash Flows *Millions*	***2018***	*2017*	*2016*
Cash provided by operating activities	**$ 8,686**	$ 7,230	$ 7,525
Cash used in investing activities	**(3,411)**	(3,086)	(3,393)
Cash used in financing activities	**(5,222)**	(4,146)	(4,246)
Net change in cash, cash equivalents and restricted cash	**$ 53**	$ (2)	$ (114)

Operating Activities

Cash provided by operating activities increased in 2018 compared to 2017 due primarily to lower federal income tax payments.

Cash provided by operating activities decreased in 2017 compared to 2016 due to the timing of tax payments in 2016 related to bonus depreciation on capital spending. The decrease was mostly offset by higher income in 2017 compared to 2016.

The Tax Act was enacted on December 22, 2017. The Tax Act extended 100% bonus depreciation effective September 27, 2017 through 2022, and phases out bonus deprecation by 2027.

Investing Activities

Higher capital investments increased cash used in investing activities in 2018 compared to 2017.

Lower capital investments and short-term investment purchases decreased cash used in investing activities in 2017 compared to 2016.

The following tables detail cash capital investments and track statistics for the years ended December 31, 2018, 2017, and 2016:

Millions	***2018***	*2017*	*2016*
Rail and other track material	**$ 608**	$ 619	$ 628
Ties	**444**	480	494
Ballast	**216**	231	235
Other [a]	**576**	503	480
Total road infrastructure replacements	**1,844**	1,833	1,837
Line expansion and other capacity projects	**286**	124	153
Commercial facilities	**234**	189	152
Total capacity and commercial facilities	**520**	313	305
Locomotives and freight cars [b]	**716**	607	854
Positive train control	**158**	336	371
Technology and other	**199**	149	138
Total cash capital investments	**$ 3,437**	$ 3,238	$ 3,505

[a] Other includes bridges and tunnels, signals, other road assets, and road work equipment.

[b] Locomotives and freight cars include early lease buyouts of $290 million in 2018, $173 million in 2017, and $90 million in 2016.

	2018	*2017*	*2016*
Track miles of rail replaced	**700**	731	791
Track miles of rail capacity expansion	**39**	11	52
New ties installed (thousands)	**4,285**	4,026	4,482
Miles of track surfaced	**9,466**	11,071	11,764

Capital Plan – In 2019, we expect our capital plan to be approximately $3.2 billion, which may be revised if business conditions or the regulatory environment affect our ability to generate sufficient returns on these investments. While asset replacements will fluctuate as part of our renewal strategy, we expect to use 75% to 80% of our capital investments to renew and improve existing capital assets. We will continue to balance investment in our network infrastructure and terminal capacity as appropriate, including new capacity investments designed to support future business growth and operational efficiency. Significant investments will be made for locomotive modernization and freight cars.

We expect to fund our 2019 cash capital plan by using some or all of the following: cash generated from operations, proceeds from the sale or lease of various operating and non-operating properties, proceeds from the issuance of long-term debt, and cash on hand. Our annual capital plan is a critical component of our long-term strategic plan. We expect our plan will enhance the long-term value of the Company for our shareholders by providing sufficient resources to (i) replace and improve our existing track infrastructure to provide safe and fluid operations, (ii) increase network efficiency by adding or improving facilities and track, and (iii) make investments that meet customer demand and take advantage of opportunities for long-term growth.

Financing Activities

Cash used in financing activities increased in 2018 compared to 2017. Increases of $4,212 million in share repurchase programs, $317 million in dividends paid and $896 million in debt repaid more than offset increases of $4,157 million in debt issued and $194 million in net issuances of commercial paper.

Cash used in financing activities decreased in 2017 compared to 2016. An increase of $908 million in common shares purchased and an increase of $103 million in dividends paid was more than offset by an increase of $752 million in debt issued, a decrease of $173 million in debt repaid, and a decrease of $191 million in debt exchange costs.

See Note 15 of the Consolidated Financial Statements for a description of all our outstanding financing arrangements and significant new borrowings.

Share Repurchase Programs

Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020, replacing our previous repurchase program. As of December 31, 2018, we repurchased a total of $31.4 billion of our common stock since the commencement of our repurchase programs in 2007. The table below represents shares repurchased in 2018 under this repurchase program.

	Number of Shares Purchased		*Average Price Paid*	
	2018	*2017*	***2018***	*2017*
First quarter	**9,259,004**	7,531,300	**$ 132.84**	$ 106.55
Second quarter [a]	**33,229,992**	7,788,283	**142.74**	109.10
Third quarter	**2,239,405**	11,801,755	**151.94**	106.69
Fourth quarter [b]	**12,490,632**	9,231,510	**153.04**	119.37
Total	**57,219,033**	36,352,848	**$ 143.75**	$ 110.40
Remaining number of shares that may be repurchased under current authority				26,428,119

[a] *Includes initial delivery of 19,870,292 shares repurchased under accelerated share repurchase programs.*

[b] *Includes 4,457,356 shares received upon settlement of accelerated share repurchase programs.*

Management's assessments of market conditions and other pertinent facts guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2019, through February 7, 2019, we repurchased 3.4 million shares at an aggregate cost of approximately $521 million.

On February 7, 2019, the Board of Directors approved a new share repurchase authorization, enabling the Company to buy up to 150 million of its common shares by March 31, 2022. The new authorization is effective April 1, 2019, and replaces the current authorization, which will now expire on March 31, 2019.

Accelerated Share Repurchase Programs – On June 14, 2018, the Company established accelerated share repurchase programs (ASRs) with two financial institutions to repurchase shares of our common stock. Under these ASRs, we paid a pre-specified amount of $3.6 billion and received an initial delivery of 19,870,292 shares on June 15, 2018. Upon settlement of the ASRs, we received 4,457,356 additional shares in the fourth quarter of 2018. The final number of shares repurchased under the ASRs was based on the volume weighted average stock price of the Company’s common stock during the ASR term, less a negotiated discount.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

Contractual Obligations and Commercial Commitments

As described in the notes to the Consolidated Financial Statements and as referenced in the tables below, we have contractual obligations and commercial commitments that may affect our financial condition. Based on our assessment of the underlying provisions and circumstances of our contractual obligations and commercial commitments, including material sources of off-balance sheet and structured finance arrangements, other than the risks that we and other similarly situated companies face with respect to the condition of the capital markets (as described in Item 1A of Part II of this report), there is no known trend, demand, commitment, event, or uncertainty that is reasonably likely to occur that would have a material adverse effect on our consolidated results of operations, financial condition, or liquidity. In addition, our commercial obligations, financings, and commitments are customary transactions that are similar to those of other comparable corporations, particularly within the transportation industry.

The following tables identify material obligations and commitments as of December 31, 2018:

Contractual Obligations *Millions*	*Total*	*Payments Due by December 31,* *2019*	*2020*	*2021*	*2022*	*2023*	*After 2023*	*Other*
Debt [a]	$38,253	$2,256	$1,679	$1,926	$1,556	$2,028	$28,808	$ -
Operating leases [b]	2,646	419	378	303	272	234	1,040	-
Capital lease obligations [c]	898	148	155	159	142	94	200	-
Purchase obligations [d]	3,311	1,915	967	265	49	30	49	36
Other post retirement benefits [e]	477	50	49	49	48	48	233	-
Income tax contingencies [f]	174	99	-	-	-	-	-	75
Total contractual obligations	$45,759	$4,887	$3,228	$2,702	$2,067	$2,434	$30,330	$ 111

[a] *Excludes capital lease obligations of $754 million, as well as unamortized discount and deferred issuance costs of $(817) million. Includes an interest component of $15,799 million.*

[b] *Includes leases for locomotives, freight cars, other equipment, and real estate.*

[c] *Represents total obligations, including interest component of $144 million.*

[d] *Purchase obligations include locomotive maintenance contracts; purchase commitments for fuel purchases, locomotives, ties, ballast, and rail; and agreements to purchase other goods and services. For amounts where we cannot reasonably estimate the year of settlement, they are reflected in the Other column.*

[e] *Includes estimated other post retirement, medical, and life insurance payments, payments made under the unfunded pension plan for the next ten years.*

[f] *Future cash flows for income tax contingencies reflect the recorded liabilities and assets for unrecognized tax benefits, including interest and penalties, as of December 31, 2018. For amounts where the year of settlement is uncertain, they are reflected in the Other column.*

Other Commercial Commitments *Millions*	*Total*	*Amount of Commitment Expiration per Period* *2019*	*2020*	*2021*	*2022*	*2023*	*After 2023*
Credit facilities [a]	$2,000	$ -	$ -	$ -	$ -	$2,000	$ -
Receivables securitization facility [b]	650	650	-	-	-	-	-
Guarantees [c]	22	7	5	5	5	-	-
Standby letters of credit [d]	18	16	2	-	-	-	-
Total commercial commitments	$2,690	$ 673	$ 7	$ 5	$ 5	$2,000	$ -

[a] *None of the credit facility was used as of December 31, 2018.*

[b] *$400 million of the receivables securitization facility was utilized as of December 31, 2018, which is accounted for as debt. The full program matures in July 2019.*

[c] *Includes guaranteed obligations related to our affiliated operations.*

[d] *None of the letters of credit were drawn upon as of December 31, 2018.*

Off-Balance Sheet Arrangements

Guarantees – At December 31, 2018, and 2017, we were contingently liable for $22 million and $33 million in guarantees. The fair value of these obligations as of both December 31, 2018, and 2017, was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

OTHER MATTERS

Labor Agreements – Approximately 85% of our full-time employees are represented by 14 major rail unions. Pursuant to the Railway Labor Act (RLA), our collective bargaining agreements are subject to modification every five years. The most recent round of negotiations started on January 1, 2015, and throughout 2017 and 2018, we concluded new agreements with all 14 major rail unions. Existing agreements remain in effect until new agreements are ratified or until the RLA procedures are exhausted. The RLA procedures include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention. The next round of negotiations begins with the service of RLA Section 6 notices on or about November 1, 2019 related to years 2019-2023. Contract negotiations historically continue for an extended period of time, and work stoppages during negotiations are rare.

Inflation – Long periods of inflation significantly increase asset replacement costs for capital-intensive companies. As a result, assuming that we replace all operating assets at current price levels, depreciation charges (on an inflation-adjusted basis) would be substantially greater than historically reported amounts.

Sensitivity Analyses – The sensitivity analyses that follow illustrate the economic effect that hypothetical changes in interest rates could have on our results of operations and financial condition. These hypothetical changes do not consider other factors that could impact actual results.

At December 31, 2018, we had variable-rate debt representing approximately 3.8% of our total debt. If variable interest rates average one percentage point higher in 2019 than our December 31, 2018 variable rate, which was approximately 3.3%, our interest expense would increase by approximately $8.5 million. This amount was determined by considering the impact of the hypothetical interest rate on the balances of our variable-rate debt at December 31, 2018.

Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a hypothetical one percentage point decrease in interest rates as of December 31, 2018, and amounts to an increase of approximately $2.4 billion to the fair value of our debt at December 31, 2018. We estimated the fair values of our fixed-rate debt by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates.

Accounting Pronouncements – See Note 3 to the Consolidated Financial Statements.

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Gain Contingency – UPRR filed multiple claims with the IRS for refunds of railroad retirement taxes (Railroad Retirement Taxes) paid on (i) certain stock awards to its employees and (ii) certain bonus payments it made to labor agreement employees during the years 1991 – 2017. In 2016, the U.S. District Court for the District of Nebraska (the District Court) denied UPRR recovery of these Railroad Retirement Taxes. UPRR appealed this denial to the U.S. Court of Appeals for the 8th Circuit (8th Circuit) and the 8th Circuit ruled in favor of UPRR and remanded the case to the District Court. The IRS appealed the 8th Circuit ruling to the U.S. Supreme Court. In June 2018, a similar case for another railroad was decided by the U.S. Supreme Court against the IRS and in favor of that railroad (*Wisconsin Central LTD., Et. Al. v. U.S.*). As a result, the U.S. Supreme Court denied the IRS request to appeal the 8th Circuit ruling. On November 28, 2018 the District Court issued an order granting summary judgment to UPRR pursuant to the mandate of the 8th Circuit. UPRR, the Department of Justice (DOJ), and the IRS have since agreed upon the tax refund amounts owed UPRR and its employees. UPRR's employer refund of $78 million will be recognized as a reduction of compensation and benefit expenses and approximately $30 million of interest will be recognized in other income. UPRR expects to receive the refunds in 2019, but the refunds may be received in multiple portions at different times. UPRR is in the process of seeking consent from approximately 75,000 current and former employees to obtain their employee share of the refunds. UPRR anticipates having this consent process completed in the first half of 2019, but further actions by the IRS and Railroad Retirement Board may delay completion until later in 2019.

These refund claims are considered gain contingencies and no refund amounts have been recorded in the Consolidated Financial Statements as of December 31, 2018. The claims will be recorded when a final judgment from the District Court has been issued and all IRS requirements for UPRR's refunds have been fulfilled.

Indemnities – Our maximum potential exposure under indemnification arrangements, including certain tax indemnifications, can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

Climate Change – Although climate change could have an adverse impact on our operations and financial performance in the future (see Risk Factors under Item 1A of this report), we are currently unable to predict the manner or severity of such impact. However, we continue to take steps and explore opportunities to reduce the impact of our operations on the environment, including investments in new technologies, using training programs to reduce fuel consumption, and changing our operations to increase fuel efficiency.

CRITICAL ACCOUNTING POLICIES

Our Consolidated Financial Statements have been prepared in accordance with GAAP. The preparation of these financial statements requires estimation and judgment that affect the reported amounts of revenues, expenses, assets, and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The following critical accounting policies are a subset of our significant accounting policies described in Note 2 to the Financial Statements and Supplementary Data, Item 8. These critical accounting policies affect significant areas of our financial statements and involve judgment and estimates. If these estimates differ significantly from actual results, the impact on our Consolidated Financial Statements may be material.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2018. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $271 million to $297 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions	***2018***	*2017*	*2016*
Beginning balance	**$ 285**	$ 290	$ 318
Current year accruals	**74**	77	75
Changes in estimates for prior years	**(16)**	(7)	(29)
Payments	**(72)**	(75)	(74)
Ending balance at December 31	**$ 271**	$ 285	$ 290
Current portion, ending balance at December 31	**$ 72**	$ 66	$ 62

Our personal injury claims activity was as follows:

	2018	*2017*	*2016*
Open claims, beginning balance	**2,090**	2,157	2,404
New claims	**3,188**	3,024	2,453
Settled or dismissed claims	**(3,253)**	(3,091)	(2,700)
Open claims, ending balance at December 31	**2,025**	2,090	2,157

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2018, and 2017. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 334 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 33 sites that are the subject of actions taken by the U.S. government, 21 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions	***2018***	*2017*	*2016*
Beginning balance	**$ 196**	$ 212	$ 190
Accruals	**84**	45	84
Payments	**(57)**	(61)	(62)
Ending balance at December 31	**$ 223**	$ 196	$ 212
Current portion, ending balance at December 31	**$ 59**	$ 57	$ 55

Our environmental site activity was as follows:

	2018	*2017*	*2016*
Open sites, beginning balance	**315**	292	290
New sites	**91**	77	85
Closed sites	**(72)**	(54)	(83)
Open sites, ending balance at December 31	**334**	315	292

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad property by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. Rail in high-density traffic corridors accounts for approximately 70 percent of the historical cost of rail and other track material. Based on the number of gross ton-miles carried over our rail in high density traffic corridors during 2018, the estimated service lives of the majority of this rail ranged from approximately 19 years to approximately 41 years. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Estimated service lives of depreciable railroad property may vary over time due to changes in physical use, technology, asset strategies, and other factors that will have an impact on the retirement profiles of our assets. We are not aware of any specific factors that are reasonably likely to significantly change the estimated service lives of our assets. Actual use and retirement of our assets may vary from our current estimates, which would impact the amount of depreciation expense recognized in future periods.

Changes in estimated useful lives of our assets due to the results of our depreciation studies could significantly impact future periods' depreciation expense and have a material impact on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by approximately $70 million. If the estimated useful lives of all depreciable assets were decreased by one year, annual depreciation expense would increase by approximately $75 million. Our 2018 depreciation studies have resulted in lower depreciation rates for some asset classes. These lower rates will partially offset the impact of a projected higher depreciable asset base, resulting in an increase in total depreciation expense by approximately 3% in 2019 versus 2018.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) it is unusual, (ii) it is material in amount, and (iii) it varies significantly from the retirement profile identified through our depreciation studies. During the last three fiscal years, no gains or losses were recognized due to the retirement of depreciable railroad properties. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity. For example, a permanent 1% increase in future income tax rates would increase our deferred tax liability by approximately $450 million. Similarly, a permanent 1% decrease in future income tax rates would decrease our deferred tax liability by approximately $450 million.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2018 and 2017, there were no valuation allowances.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Other Postretirement Benefits – We use an actuarial analysis to measure the liabilities and expenses associated with providing pension and medical and life insurance benefits (OPEB) to eligible employees. In order to use actuarial methods to value the liabilities and expenses, we must make several assumptions. The critical assumptions used to measure pension obligations and expenses are the discount rates and expected rate of return on pension assets. For OPEB, the critical assumptions are the discount rates and health care cost trend rate.

We evaluate our critical assumptions at least annually, and selected assumptions are based on the following factors:

- We measure the service cost and interest cost components of our net periodic benefit cost by using individual spot rates matched with separate cash flows for each future year. Discount rates are based on a Mercer yield curve of high quality corporate bonds (rated AA by a recognized rating agency).
- Expected return on plan assets is based on our asset allocation mix and our historical return, taking into consideration current and expected market conditions.
- Health care cost trend rate is based on our historical rates of inflation and expected market conditions.

The following tables present the key assumptions used to measure net periodic pension and OPEB cost/(benefit) for 2019 and the estimated impact on 2019 net periodic pension and OPEB cost/ (benefit) relative to a change in those assumptions:

Assumptions	*Pension*	*OPEB*
Discount rate for benefit obligations	4.23%	4.17%
Discount rate for interest on benefit obligations	3.94%	3.84%
Discount rate for service cost	4.33%	4.32%
Discount rate for interest on service cost	4.30%	4.27%
Expected return on plan assets	7.00%	N/A
Compensation increase	4.19%	N/A

Health care cost trend rate:		
Pre-65 current	N/A	6.09%
Pre-65 level in 2038	N/A	4.50%

Sensitivities	*Increase in Expense*	
Millions	*Pension*	*OPEB*
0.25% decrease in discount rates	$ 13	$ -
0.25% increase in compensation scale	$ 10	N/A
0.25% decrease in expected return on plan assets	$ 10	N/A
1% increase in health care cost trend rate	N/A	$ 3

The following table presents the net periodic pension and OPEB cost for the years ended December 31:

Millions	*Est. 2019*	*2018*	*2017*	*2016*
Net periodic pension cost	$ 39	$ 71	$ 115	$ 43
Net periodic OPEB cost	19	23	22	13

CAUTIONARY INFORMATION

Certain statements in this report, and statements in other reports or information filed or to be filed with the SEC (as well as information included in oral statements or other written statements made or to be made by us), are, or will be, forward-looking statements as defined by the Securities Act of 1933 and the Securities Exchange Act of 1934. These forward-looking statements and information include, without limitation, (A) statements in the Chairman's letter preceding Part I; statements regarding planned capital expenditures under the caption "2019 Capital Plan" in Item 2 of Part I; statements regarding dividends in Item 5 of Part II; and statements and information set forth under the captions "2019 Outlook"; "Liquidity and Capital Resources"; and "Pension and Other Postretirement Benefits" in this Item 7 of Part II, and (B) any other statements or information in this report (including information incorporated herein by reference) regarding: expectations as to financial performance, revenue growth and cost savings; the time by which goals, targets, or objectives will be achieved; projections, predictions, expectations, estimates, or forecasts as to our business, financial and operational results, future economic performance, and general economic conditions; expectations as to operational or service performance or improvements; expectations as to the effectiveness of steps taken or to be taken to improve operations and/or service, including capital expenditures for infrastructure improvements and equipment acquisitions, any strategic business acquisitions, and modifications to our transportation plans, including implementation of PTC; expectations as to existing or proposed new products and services; expectations as to the impact of any new regulatory activities or legislation on our operations or financial results; estimates of costs relating to environmental remediation and restoration; estimates and expectations regarding tax matters; expectations that claims, litigation, environmental costs, commitments, contingent liabilities, labor negotiations or agreements, or other matters will not have a material adverse effect on our consolidated results of operations, financial condition, or liquidity and any other similar expressions concerning matters that are not historical facts. Forward-looking statements may be identified by their use of forward-looking terminology, such as "believes," "expects," "may," "should," "would," "will," "intends," "plans," "estimates," "anticipates," "projects" and similar words, phrases or expressions.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times that, or by which, such performance or results will be achieved. Forward-looking statements and information are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements and information. Forward-looking statements and information reflect the good faith consideration by management of currently available information, and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances over which management has little or no influence or control. The Risk Factors in Item 1A of this report could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in any forward-looking statements or information. To the extent circumstances require or we deem it otherwise necessary, we will update or amend these risk factors in a Form 10-Q, Form 8-K or subsequent Form 10-K. All forward-looking statements are qualified by, and should be read in conjunction with, these Risk Factors.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information concerning market risk sensitive instruments is set forth under Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Matters, Item 7.

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Item 8. **Financial Statements and Supplementary Data**

Index to Consolidated Financial Statements **Page**

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2018, 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 8, 2019, expressed an unqualified opinion on the Corporation's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 8, 2019

We have served as the Corporation's auditor since 1967.

CONSOLIDATED STATEMENTS OF INCOME
Union Pacific Corporation and Subsidiary Companies

Millions, Except Per Share Amounts, for the Years Ended December 31,	***2018***	*2017*	*2016*
Operating revenues:			
Freight revenues	**$21,384**	$19,837	$18,601
Other revenues	**1,448**	1,403	1,340
Total operating revenues	**22,832**	21,240	19,941
Operating expenses:			
Compensation and benefits	**5,056**	4,939	4,779
Fuel	**2,531**	1,891	1,489
Purchased services and materials	**2,443**	2,363	2,258
Depreciation	**2,191**	2,105	2,038
Equipment and other rents	**1,072**	888	1,137
Other	**1,022**	948	997
Total operating expenses	**14,315**	13,134	12,698
Operating income	**8,517**	8,106	7,243
Other income (Note 7)	**94**	245	221
Interest expense	**(870)**	(719)	(698)
Income before income taxes	**7,741**	7,632	6,766
Income tax benefit/(expense) (Note 8)	**(1,775)**	3,080	(2,533)
Net income	**$ 5,966**	$10,712	$ 4,233
Share and Per Share (Note 9):			
Earnings per share - basic	**$ 7.95**	$ 13.42	$ 5.09
Earnings per share - diluted	**$ 7.91**	$ 13.36	$ 5.07
Weighted average number of shares - basic	**750.9**	798.4	832.4
Weighted average number of shares - diluted	**754.3**	801.7	835.4
Dividends declared per share	**$ 3.06**	$ 2.48	$ 2.255

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2018***	*2017*	*2016*
Net income	**$ 5,966**	$10,712	$ 4,233
Other comprehensive income/(loss):			
Defined benefit plans	**62**	103	(29)
Foreign currency translation	**(36)**	28	(48)
Total other comprehensive income/(loss) [a]	**26**	131	(77)
Comprehensive income	**$ 5,992**	$10,843	$ 4,156

[a] Net of deferred taxes of $(22) million, $(61) million, $49 million, and during 2018, 2017, and 2016, respectively.

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
Union Pacific Corporation and Subsidiary Companies

Millions, Except Share and Per Share Amounts as of December 31,	***2018***	*2017*
Assets		
Current assets:		
Cash and cash equivalents	**$ 1,273**	$ 1,275
Short-term investments (Note 14)	**60**	90
Accounts receivable, net (Note 11)	**1,755**	1,493
Materials and supplies	**742**	749
Other current assets	**333**	399
Total current assets	**4,163**	4,006
Investments	**1,912**	1,809
Net properties (Note 12)	**52,679**	51,605
Other assets	**393**	386
Total assets	**$ 59,147**	$ 57,806
Liabilities and Common Shareholders' Equity		
Current liabilities:		
Accounts payable and other current liabilities (Note 13)	**$ 3,160**	$ 3,139
Debt due within one year (Note 15)	**1,466**	800
Total current liabilities	**4,626**	3,939
Debt due after one year (Note 15)	**20,925**	16,144
Deferred income taxes (Note 8)	**11,302**	10,936
Other long-term liabilities	**1,871**	1,931
Commitments and contingencies (Notes 17 and 18)		
Total liabilities	**38,724**	32,950
Common shareholders' equity:		
Common shares, $2.50 par value, 1,400,000,000 authorized; 1,111,739,781 and 1,111,371,304 issued; 725,056,690 and 780,917,756 outstanding, respectively	**2,779**	2,778
Paid-in-surplus	**4,449**	4,476
Retained earnings	**45,284**	41,317
Treasury stock	**(30,674)**	(22,574)
Accumulated other comprehensive loss (Note 10)	**(1,415)**	(1,141)
Total common shareholders' equity	**20,423**	24,856
Total liabilities and common shareholders' equity	**$ 59,147**	$ 57,806

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2018***	*2017*	*2016*
Operating Activities			
Net income	**$ 5,966**	$10,712	$ 4,233
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation	**2,191**	2,105	2,038
Deferred and other income taxes	**338**	(5,067)	831
Net gain on non-operating asset dispositions	**(30)**	(111)	(94)
Other operating activities, net	**347**	(282)	(228)
Changes in current assets and liabilities:			
Accounts receivable, net	**(262)**	(235)	98
Materials and supplies	**7**	(32)	19
Other current assets	**(24)**	9	22
Accounts payable and other current liabilities	**(125)**	182	232
Income and other taxes	**278**	(51)	374
Cash provided by operating activities	**8,686**	7,230	7,525
Investing Activities			
Capital investments	**(3,437)**	(3,238)	(3,505)
Purchases of short-term investments (Note 14)	**(90)**	(120)	(580)
Maturities of short-term investments (Note 14)	**90**	90	520
Proceeds from asset sales	**63**	168	129
Other investing activities, net	**(37)**	14	43
Cash used in investing activities	**(3,411)**	(3,086)	(3,393)
Financing Activities			
Share repurchase programs (Note 19)	**(8,225)**	(4,013)	(3,105)
Debt issued (Note 15)	**6,892**	2,735	1,983
Dividends paid	**(2,299)**	(1,982)	(1,879)
Debt repaid	**(1,736)**	(840)	(1,013)
Net issuance of commercial paper	**194**	-	-
Debt exchange	**-**	-	(191)
Other financing activities, net	**(48)**	(46)	(41)
Cash used in financing activities	**(5,222)**	(4,146)	(4,246)
Net change in cash, cash equivalents and restricted cash	**53**	(2)	(114)
Cash, cash equivalents, and restricted cash at beginning of year	**1,275**	1,277	1,391
Cash, cash equivalents, and restricted cash at end of year	**$ 1,328**	$ 1,275	$ 1,277
Supplemental Cash Flow Information			
Non-cash investing and financing activities:			
Term loan renewals	**$ 250**	**$** -	**$** -
Capital investments accrued but not yet paid	**205**	366	223
Capital lease financings	**12**	19	-
Cash paid during the year for:			
Income taxes, net of refunds	**$ (1,205)**	$ (2,112)	$ (1,347)
Interest, net of amounts capitalized	**(728)**	(666)	(652)

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN COMMON SHAREHOLDERS' EQUITY
Union Pacific Corporation and Subsidiary Companies

Millions	*Common Shares*	*Treasury Shares*	*Common Shares*	*Paid-in-Surplus*	*Retained Earnings*	*Treasury Stock*	*AOCI [a]*	*Total*
Balance at January 1, 2016	1,110.4	(261.2)	$ 2,776	$ 4,417	$ 30,233	$ (15,529)	$ (1,195)	$ 20,702
Net income			-	-	4,233	-	-	4,233
Other comprehensive loss			-	-	-	-	(77)	(77)
Conversion, stock option exercises, forfeitures, and other	0.6	1.1	1	4	-	53	-	58
Share repurchase programs (Note 19)	-	(35.1)	-	-	-	(3,105)	-	(3,105)
Cash dividends declared ($2.255 per share)	-	-	-	-	(1,879)	-	-	(1,879)
Balance at December 31, 2016	1,111.0	(295.2)	$ 2,777	$ 4,421	$ 32,587	$ (18,581)	$ (1,272)	$ 19,932
Net income			-	-	10,712	-	-	10,712
Other comprehensive income			-	-	-	-	131	131
Conversion, stock option exercises, forfeitures, and other	0.4	1.1	1	55	-	20	-	76
Share repurchase programs (Note 19)	-	(36.4)	-	-	-	(4,013)	-	(4,013)
Cash dividends declared ($2.48 per share)	-	-	-	-	(1,982)	-	-	(1,982)
Balance at December 31, 2017	1,111.4	(330.5)	$ 2,778	$ 4,476	$ 41,317	$ (22,574)	$ (1,141)	$ 24,856
Net income			-	-	5,966	-	-	5,966
Other comprehensive income			-	-	-	-	26	26
Conversion, stock option exercises, forfeitures, and other	0.3	1.1	1	65	-	33	-	99
Share repurchase programs (Note 19)	-	(57.2)	-	(92)	-	(8,133)	-	(8,225)
Cash dividends declared ($3.06 per share)	-	-	-	-	(2,299)	-	-	(2,299)
Reclassification due to ASU 2018-02 adoption (Note 3)			-	-	300	-	(300)	-
Balance at December 31, 2018	**1,111.7**	**(386.6)**	**$ 2,779**	**$ 4,449**	**$ 45,284**	**$ (30,674)**	**$ (1,415)**	**$ 20,423**

[a] AOCI = Accumulated Other Comprehensive Income/(Loss) (Note 10)

The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
Union Pacific Corporation and Subsidiary Companies

For purposes of this report, unless the context otherwise requires, all references herein to the “Corporation”, “Company”, “UPC”, “we”, “us”, and “our” mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which will be separately referred to herein as “UPRR” or the “Railroad”.

1. Nature of Operations

Operations and Segmentation – We are a Class I railroad operating in the U.S. Our network includes 32,236 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and Eastern U.S. gateways and providing several corridors to key Mexican gateways. We own 26,039 miles and operate on the remainder pursuant to trackage rights or leases. We serve the western two-thirds of the country and maintain coordinated schedules with other rail carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide and analyze revenue by commodity group, we treat the financial results of the Railroad as one segment due to the integrated nature of our rail network. Our operating revenues are primarily derived from contracts with customers for the transportation of freight from origin to destination. Effective January 1, 2018, the Company reclassified its six commodity groups into four: Agricultural Products, Energy, Industrial, and Premium. The following table represents a disaggregation of our freight and other revenues:

Millions	***2018***	*2017*	*2016*
Agricultural Products	**$ 4,469**	$ 4,303	$ 4,209
Energy	**4,608**	4,498	3,715
Industrial	**5,679**	5,204	4,964
Premium	**6,628**	5,832	5,713
Total freight revenues	**$21,384**	$19,837	$18,601
Other subsidiary revenues	**881**	885	814
Accessorial revenues	**502**	458	455
Other	**65**	60	71
Total operating revenues	**$22,832**	$21,240	$19,941

Although our revenues are principally derived from customers domiciled in the U.S., the ultimate points of origination or destination for some products we transport are outside the U.S. Each of our commodity groups includes revenue from shipments to and from Mexico. Included in the above table are freight revenues from our Mexico business which amounted to $2.5 billion in 2018, $2.3 billion in 2017, and $2.2 billion in 2016.

Basis of Presentation – The Consolidated Financial Statements are presented in accordance with accounting principles generally accepted in the U.S. (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

2. Significant Accounting Policies

Principles of Consolidation – The Consolidated Financial Statements include the accounts of Union Pacific Corporation and all of its subsidiaries. Investments in affiliated companies (20% to 50% owned) are accounted for using the equity method of accounting. All intercompany transactions are eliminated. We currently have no less than majority-owned investments that require consolidation under variable interest entity requirements.

Cash, Cash Equivalents and Restricted Cash – Cash equivalents consist of investments with original maturities of three months or less. Amounts included in restricted cash represent those required to be set aside by contractual agreement.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Statements of Financial Position that sum to the total of the same such amounts shown on the Consolidated Statements of Cash Flows:

Millions		***2018***		*2017*		*2016*
Cash and cash equivalents	**$**	**1,273**	$	1,275	$	1,277
Restricted cash equivalents in other current assets		**42**		-		-
Restricted cash equivalents in other assets		**13**		-		-
Total cash, cash equivalents and restricted cash equivalents shown on the Statement of Cash Flows:	**$**	**1,328**	$	1,275	$	1,277

Accounts Receivable – Accounts receivable includes receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position.

Investments – Investments represent our investments in affiliated companies (20% to 50% owned) that are accounted for under the equity method of accounting and investments in companies (less than 20% owned) accounted for under the cost method of accounting. The results of operations for our equity method investments that are integral to our operations are recorded in operating expenses.

Materials and Supplies – Materials and supplies are carried at the lower of average cost or net realizable value.

Property and Depreciation – Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks), for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. Under the group method of depreciation, no gain or loss is recognized when depreciable property is retired or replaced in the ordinary course of business.

Impairment of Long-lived Assets – We review long-lived assets, including identifiable intangibles, for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of the long-lived assets, the carrying value is reduced to the estimated fair value as measured by the discounted cash flows.

Revenue Recognition – Freight revenues are derived from contracts with customers. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable. Our contracts include private agreements, private rate/letter quotes, public circulars/tariffs, and interline/foreign agreements. The performance obligation in our contracts is typically delivering a specific commodity from a place of origin to a place of destination and our commitment begins with the tendering and acceptance of a freight bill of lading and is satisfied upon delivery at destination. We consider each freight shipment to be a distinct performance obligation.

We recognize freight revenues over time as freight moves from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Outstanding performance obligations related to freight moves in transit totaled $123 million at December 31, 2018 and $154 million at December 31, 2017 and are expected to be recognized in the next quarter as we satisfy our remaining performance obligations and deliver freight to destination. The transaction price is generally specified in a contract and may be dependent on the commodity, origin/destination, and route. Customer incentives, which are primarily provided for shipping a specified cumulative volume or shipping to/from specific locations, are recorded as a reduction to operating revenues based on actual or projected future customer shipments.

Under typical payment terms, our customers pay us after each performance obligation is satisfied and there are no material contract assets or liabilities associated with our freight revenues. Outstanding freight receivables are presented in our Consolidated Statement of Financial Position as Accounts Receivables, net.

Freight revenue related to interline transportation services that involve other railroads are reported on a net basis. The portion of the gross amount billed to customers that is remitted by the Company to another party is not reflected as freight revenue.

Other revenues consist primarily of revenues earned by our other subsidiaries (primarily logistics and commuter rail operations) and accessorial revenues. Other subsidiary revenues are generally recognized over time as shipments move from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Accessorial revenues are recognized at a point in time as performance obligations are satisfied.

Translation of Foreign Currency – Our portion of the assets and liabilities related to foreign investments are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average rates of exchange prevailing during the year. Unrealized gains or losses are reflected within common shareholders' equity as accumulated other comprehensive income or loss.

Fair Value Measurements – We use a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety. These levels include:

Level 1: Quoted market prices in active markets for identical assets or liabilities.
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3: Unobservable inputs that are not corroborated by market data.

We have applied fair value measurements to our short term investments, pension plan assets and short- and long-term debt.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as "retention awards". We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

We measure and recognize compensation expense for all stock-based awards made to employees and directors, including stock options. Compensation expense is based on the calculated fair value of the awards as measured at the grant date and is expensed ratably over the service period of the awards (generally the vesting period). The fair value of retention awards is the closing stock price on the date of grant, while the fair value of stock options is determined by using the Black-Scholes option pricing model.

Earnings Per Share – Basic earnings per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Postretirement Benefits – We incur certain employment-related expenses associated with pensions and postretirement health benefits. In order to measure the expense associated with these benefits, we must make various assumptions including discount rates used to value certain liabilities, expected return on plan assets used to fund these expenses, compensation increases, employee turnover rates, anticipated mortality rates, and expected future health care costs. The assumptions used by us are based on our historical experience as well as current facts and circumstances. We use an actuarial analysis to measure the expense and liability associated with these benefits.

Personal Injury – The cost of injuries to employees and others on our property is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability. Our personal injury liability is not discounted to present value. Legal fees and incidental costs are expensed as incurred.

Environmental – When environmental issues have been identified with respect to property currently or formerly owned, leased, or otherwise used in the conduct of our business, we perform, with the assistance of our consultants, environmental assessments on such property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. We do not discount our environmental liabilities when the timing of the anticipated cash payments is not fixed or readily determinable. Legal fees and incidental costs are expensed as incurred.

Use of Estimates – The preparation of our Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported assets and liabilities, and the disclosure of certain contingent assets and liabilities as of the date of the consolidated financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual future results may differ from such estimates.

3. Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 (ASU 2014-09), *Revenue from Contracts with Customers (Topic 606)*. ASU 2014-09 supersedes the revenue recognition guidance in Topic 605, Revenue Recognition. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods and services to customers in an amount that reflects the consideration to which the entity expects to be entitled in the exchange for those goods or services. This may require the use of more judgment and estimates in order to correctly recognize the revenue expected as an outcome of each specific performance obligation. Additionally, this guidance requires the disclosure of the nature, amount, and timing of revenue arising from contracts so as to aid in the understanding of the users of financial statements.

Effective January 1, 2018, the Company adopted ASU 2014-09 using the modified retrospective transition method. The Company analyzed its freight and other revenues and recognizes freight revenues as freight moves from origin to destination and recognizes other revenues as identified performance obligations are satisfied. We also analyzed freight and other revenues in the context of the new guidance on principal versus agent considerations and evaluated the required new disclosures. The ASU did not have an impact on our consolidated financial position, results of operations, or cash flows.

In January 2016, the FASB issued Accounting Standards Update No. 2016-01 (ASU 2016-01), *Recognition and Measurement of Financial Assets and Financial Liabilities (Subtopic 825-10)*. ASU 2016-01 provides guidance for the recognition, measurement, presentation, and disclosure of financial instruments. Effective January 1, 2018, the Company adopted the ASU and it did not have an impact on our consolidated financial position, results of operations, or cash flows.

In March 2017, the FASB issued Accounting Standards Update No. 2017-07 (ASU 2017-07), *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (Topic 715)*. ASU 2017-07 requires the service cost component be reported separately from the other components of net benefit costs in the income statement, provides explicit guidance on the presentation of the service cost component and the other components of net benefit cost in the income statement, and allows only the service cost component of net benefit cost to be eligible for capitalization. Effective January 1, 2018, we adopted the standard on a retrospective basis. As a result of the adoption, only service costs are recorded within compensation and benefits expense, and the other components of net benefit costs are now recorded within other income.

The impact of ASU 2017-07 adoption is shown in the following table:

Millions		***2018***		*2017*		*2016*
Increase/ (decrease) in operating income	**$**	**(13)**	$	45	**$**	**(29)**
Increase/ (decrease) in other income		**13**		(45)		**29**

On February 14, 2018, the FASB issued Accounting Standards Update 2018-02, (ASU 2018-02), *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows entities the option to reclassify from accumulated other comprehensive income (AOCI) to retained earnings the income tax effects that remain stranded in AOCI resulting from the application of the Tax Act. ASU 2018-02 is effective for fiscal years beginning after December 15, 2018. Early adoption of the ASU is permitted. We adopted ASU 2018-02 during the first quarter of 2018. As a result of this adoption, we elected to reclassify $300 million from AOCI to retained earnings. We adopted the policy that future income tax effects that are stranded in AOCI will be released only when the entire portfolio of the type of item is liquidated.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), *Leases (Subtopic 842)*. ASU 2016-02 will require companies to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. For public companies, this standard is effective for annual reporting periods beginning after December 15, 2018, and early adoption is permitted. We have implemented an enterprise-wide lease management system to support the new reporting requirements, and effective January 1, 2019, the Company adopted ASU 2016-02. We elected an initial application date of January 1, 2019 and will not recast comparative periods in transition to the new standard. In addition, we elected certain practical expedients which permit us not to reassess whether existing contracts are or contain leases, to not reassess the lease classification of any existing leases, to not reassess initial direct costs for any existing leases, and to not separate lease components for all classes of underlying assets. We also made an accounting policy election to keep leases with an initial term of 12 months or less off of the balance sheet for all classes of underlying assets. Adoption of the new standard resulted in an increase in the Company's assets and liabilities of approximately $2 billion. The ASU did not have an impact on our consolidated results of operations or cash flows.

4. Workforce Reduction Plans

On October 23, 2018, we announced the elimination of one operating region and five service units as part of a broader effort to more closely align operating resources with the Company's long term strategic initiatives. This resulted in the reduction of approximately 330 management employees in the fourth quarter of 2018. In addition, approximately 140 agreement positions were reduced as part of ongoing initiatives.

On August 16, 2017, the Company approved and commenced a management and administrative personnel reorganization plan (the "Plan") furthering its on-going efforts to increase efficiency and more effectively align Company resources. The Plan implemented productivity initiatives identified during a Company-wide organizational review that included the reduction of approximately 460 management positions and 250 agreement positions during the third and fourth quarters of 2017.

These workforce reductions resulted in pretax charges recognized within compensation and benefits expense and other income in our Consolidated Statements of Income. The charges consisted of management employee termination benefits, including pension expenses, severance costs, and acceleration of equity compensation expense as shown in the following table:

Millions for the Years Ended December 31,		2018		2017
Compensation and benefits expense				
Severance	$	23	$	12
Equity compensation		2		5
Other income				
Pension		-		69
Total expense	$	25	$	86

The 2017 workforce reduction plan included an enhanced pension benefit which resulted in a curtailment loss of $20 million and a special termination benefit of $49 million as a result of a remeasurement as of September 30, 2017. In accordance with ASU 2017-07, both of these charges were recorded within other income.

The actions associated with the above workforce reductions are substantially complete, however we expect future workforce reductions may result in additional charges (that we cannot currently, reasonably estimate) as management continues to analyze the Company's cost structure and evaluate other restructuring and cost reduction opportunities that will further align with the Company's long-term strategic priorities.

5. Stock Options and Other Stock Plans

In April 2000, the shareholders approved the Union Pacific Corporation 2000 Directors Plan (Directors Plan) whereby 2,200,000 shares of our common stock were reserved for issuance to our non-employee directors. Under the Directors Plan, each non-employee director, upon his or her initial election to the Board of Directors, received a grant of 4,000 retention shares or retention stock units. In July 2018, the Board of Directors eliminated the retention grant for directors newly elected in 2018 and all future years. As of December 31, 2018, 36,000 restricted shares were outstanding under the Directors Plan.

The Union Pacific Corporation 2004 Stock Incentive Plan (2004 Plan) was approved by shareholders in April 2004. The 2004 Plan reserved 84,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans that were outstanding on April 16, 2004, and became available for regrant pursuant to the terms of the 2004 Plan. Under the 2004 Plan, non-qualified options, stock appreciation rights, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2004 Plan. As of December 31, 2018, 1,088,670 options and 0 retention shares and stock units were outstanding under the 2004 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2013 Stock Incentive Plan (2013 Plan) was approved by shareholders in May 2013. The 2013 Plan reserved 78,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of February 28, 2013, that are subsequently cancelled, expired, forfeited or otherwise not issued under previous plans. Under the 2013 Plan, non-qualified options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2013 Plan. As of December 31, 2018, 4,081,360 options and 3,163,005 retention shares and stock units were outstanding under the 2013 Plan.

Pursuant to the above plans 70,730,692; 72,151,415; and 73,745,250; shares of our common stock were authorized and available for grant at December 31, 2018, 2017, and 2016, respectively.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as “retention awards”. We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

Information regarding stock-based compensation appears in the table below:

Millions	***2018***	*2017*	*2016*
Stock-based compensation, before tax:			
Stock options	**$ 17**	$ 19	$ 16
Retention awards	**79**	84	66
Total stock-based compensation, before tax	**$ 96**	$ 103	$ 82
Excess tax benefits from equity compensation plans	**$ 28**	$ 44	$ 28

Stock Options – We estimate the fair value of our stock option awards using the Black-Scholes option pricing model. The table below shows the annual weighted-average assumptions used for valuation purposes:

Weighted-Average Assumptions	***2018***	*2017*	*2016*
Risk-free interest rate	**2.6%**	2.0%	1.3%
Dividend yield	**2.3%**	2.3%	2.9%
Expected life (years)	**5.3**	5.3	5.1
Volatility	**21.1%**	21.7%	23.2%
Weighted-average grant-date fair value of options granted	**$ 21.70**	$ 18.19	$ 11.36

The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant; the expected dividend yield is calculated as the ratio of dividends paid per share of common stock to the stock price on the date of grant; the expected life is based on historical and expected exercise behavior; and expected volatility is based on the historical volatility of our stock price over the expected life of the option.

A summary of stock option activity during 2018 is presented below:

	Options (thous.)	*Weighted-Average Exercise Price*	*Weighted-Average Remaining Contractual Term*	*Aggregate Intrinsic Value (millions)*
Outstanding at January 1, 2018	5,630	$83.37	5.8 yrs.	$ 286
Granted	800	124.86	N/A	N/A
Exercised	(1,128)	70.88	N/A	N/A
Forfeited or expired	(132)	101.01	N/A	N/A
Outstanding at December 31, 2018	5,170	$92.06	5.4 yrs.	$ 239
Vested or expected to vest at December 31, 2018	5,118	$91.89	5.4 yrs.	$ 237
Options exercisable at December 31, 2018	3,429	$84.27	4.1 yrs.	$ 185

Stock options are granted at the closing price on the date of grant, have ten-year contractual terms, and vest no later than three years from the date of grant. None of the stock options outstanding at December 31, 2018, are subject to performance or market-based vesting conditions.

At December 31, 2018, there was $17 million of unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted-average period of 0.9 years. Additional information regarding stock option exercises appears in the following table:

Millions	***2018***	*2017*	*2016*

Intrinsic value of stock options exercised	**$**	**83**	$	88	$	52
Cash received from option exercises		**76**		59		39
Treasury shares repurchased for employee payroll taxes		**(20)**		(18)		(15)
Tax benefit realized from option exercises		**21**		34		20
Aggregate grant-date fair value of stock options vested		**19**		20		19

Retention Awards – The fair value of retention awards is based on the closing price of the stock on the grant date. Dividends and dividend equivalents are paid to participants during the vesting periods.

Changes in our retention awards during 2018 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2018	2,313	$ 95.04
Granted	542	125.51
Vested	(664)	88.79
Forfeited	(121)	103.07
Nonvested at December 31, 2018	2,070	$104.55

Retention awards are granted at no cost to the employee or non-employee director and vest over periods lasting up to four years. At December 31, 2018, there was $91 million of total unrecognized compensation expense related to nonvested retention awards, which is expected to be recognized over a weighted-average period of 1.6 years.

Performance Retention Awards – In February 2018, our Board of Directors approved performance stock unit grants. The basic terms of these performance stock units are identical to those granted in February 2017, except for different annual return on invested capital (ROIC) performance targets. The plan also includes relative operating income growth (OIG) as a modifier compared to the companies included in the S&P 500 Industrials Index. We define ROIC as net operating profit adjusted for interest expense (including interest on the present value of operating leases) and taxes on interest divided by average invested capital adjusted for the present value of operating leases. The modifier can be up to +/- 25% of the award earned based on the ROIC achieved, but not to exceed the maximum number of shares granted.

Stock units awarded to selected employees under these grants are subject to continued employment for 37 months and the attainment of certain levels of ROIC, modified for the relative OIG. We expense the fair value of the units that are probable of being earned based on our forecasted ROIC over the 3-year performance period, and with respect to the third year of the plan, the relative OIG modifier. We measure the fair value of these performance stock units based upon the closing price of the underlying common stock as of the date of grant, reduced by the present value of estimated future dividends. Dividend equivalents are paid to participants only after the units are earned.

The assumptions used to calculate the present value of estimated future dividends related to the February 2018 grant were as follows:

	2018
Dividend per share per quarter	$ 0.73
Risk-free interest rate at date of grant	2.3%

Changes in our performance retention awards during 2018 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2018	1,138	$ 92.92
Granted	348	117.80
Vested	(95)	111.96

Unearned	(201)	114.97
Forfeited	(98)	93.06
Nonvested at December 31, 2018	1,092	$ 95.12

At December 31, 2018, there was $42 million of total unrecognized compensation expense related to nonvested performance retention awards, which is expected to be recognized over a weighted-average period of 1.2 years. This expense is subject to achievement of the performance measures established for the performance stock unit grants.

6. Retirement Plans

Pension and Other Postretirement Benefits

Pension Plans – We provide defined benefit retirement income to eligible non-union employees through qualified and non-qualified (supplemental) pension plans. Qualified and non-qualified pension benefits are based on years of service and the highest compensation during the latest years of employment, with specific reductions made for early retirements. Non-union employees hired on or after January 1, 2018 are no longer eligible for pension benefits, but are eligible for an enhanced 401(k) plan as described below in other retirement programs.

Other Postretirement Benefits (OPEB) – We provide medical and life insurance benefits for eligible retirees hired before January 1, 2004. These benefits are funded as medical claims and life insurance premiums are paid.

Funded Status

We are required by GAAP to separately recognize the overfunded or underfunded status of our pension and OPEB plans as an asset or liability. The funded status represents the difference between the projected benefit obligation (PBO) and the fair value of the plan assets. Our non-qualified (supplemental) pension plan is unfunded by design. The PBO of the pension plans is the present value of benefits earned to date by plan participants, including the effect of assumed future compensation increases. The PBO of the OPEB plan is equal to the accumulated benefit obligation, as the present value of the OPEB liabilities is not affected by compensation increases. Plan assets are measured at fair value. We use a December 31 measurement date for plan assets and obligations for all our retirement plans.

Changes in our PBO and plan assets were as follows for the years ended December 31:

Funded Status	*Pension*		*OPEB*	
Millions	***2018***	*2017*	***2018***	*2017*
Projected Benefit Obligation				
Projected benefit obligation at beginning of year	**$ 4,529**	$ 4,110	**$ 330**	$ 334
Service cost	**105**	90	**2**	2
Interest cost	**145**	142	**10**	10
Plan curtailment cost	**-**	20	**-**	(1)
Special termination cost	**-**	49	**-**	-
Actuarial (gain)/loss	**(371)**	382	**(20)**	7
Gross benefits paid	**(227)**	(264)	**(24)**	(22)
Projected benefit obligation at end of year	**$ 4,181**	$ 4,529	**$ 298**	$ 330
Plan Assets				
Fair value of plan assets at beginning of year	**$ 4,224**	$ 3,748	**$ -**	$ -
Actual (loss)/return on plan assets	**(139)**	716	**-**	-
Voluntary funded pension plan contributions	**-**	-	**-**	-
Non-qualified plan benefit contributions	**29**	24	**24**	22
Gross benefits paid	**(227)**	(264)	**(24)**	(22)
Fair value of plan assets at end of year	**$ 3,887**	$ 4,224	**$ -**	$ -
Funded status at end of year	**$ (294)**	$ (305)	**$ (298)**	$ (330)

Amounts recognized in the statement of financial position as of December 31, 2018, and 2017 consist of:

Millions	*Pension*		*OPEB*	
	2018	*2017*	***2018***	*2017*
Noncurrent assets	**$ 172**	$ 196	**$ -**	$ -
Current liabilities	**(28)**	(27)	**(22)**	(23)
Noncurrent liabilities	**(438)**	(474)	**(276)**	(307)
Net amounts recognized at end of year	**$ (294)**	$ (305)	**$ (298)**	$ (330)

Pre-tax amounts recognized in accumulated other comprehensive income/(loss) as of December 31, 2018, and 2017 consist of:

	2018			2017		
Millions	***Pension***	***OPEB***	***Total***	*Pension*	*OPEB*	*Total*
Prior service cost	**$ -**	**$ -**	**$ -**	$ -	$ (1)	$ (1)
Net actuarial loss	**(1,480)**	**(90)**	**(1,570)**	(1,533)	(120)	(1,653)
Total	**$(1,480)**	**$ (90)**	**$(1,570)**	$(1,533)	$ (121)	$(1,654)

Pre-tax changes recognized in other comprehensive income/(loss) during 2018, 2017, and 2016 were as follows:

	Pension			*OPEB*		
Millions	***2018***	*2017*	*2016*	***2018***	*2017*	*2016*
Net actuarial (loss)/gain	**$ (40)**	$ 67	$ (112)	**$ 20**	$ (6)	$ (16)
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**1**	1	(9)
Actuarial loss	**93**	81	83	**10**	9	10
Total	**$ 53**	$ 148	$ (29)	**$ 31**	$ 4	$ (15)

Amounts included in accumulated other comprehensive income/(loss) expected to be amortized into net periodic cost during 2019:

Millions	*Pension*	*OPEB*	*Total*
Prior service credit	$ -	$ -	$ -
Net actuarial loss	(63)	(7)	(70)
Total	$ (63)	$ (7)	$ (70)

Underfunded Accumulated Benefit Obligation – The accumulated benefit obligation (ABO) is the present value of benefits earned to date, assuming no future compensation growth. The underfunded accumulated benefit obligation represents the difference between the ABO and the fair value of plan assets. At December 31, 2018, and 2017, the non-qualified (supplemental) plan ABO was $446 million and $481 million, respectively.

The following table discloses only the PBO, ABO, and fair value of plan assets for pension plans where the accumulated benefit obligation is in excess of the fair value of the plan assets as of December 31:

Underfunded Accumulated Benefit Obligation		
Millions	***2018***	*2017*
Projected benefit obligation	**$ 465**	$ 501
Accumulated benefit obligation	**$ 446**	$ 481
Fair value of plan assets	**-**	-
Underfunded accumulated benefit obligation	**$ (446)**	$ (481)

The ABO for all defined benefit pension plans was $3.9 billion and $4.2 billion at December 31, 2018, and 2017, respectively.

Assumptions – The weighted-average actuarial assumptions used to determine benefit obligations at December 31:

	Pension		*OPEB*	
Percentages	***2018***	*2017*	***2018***	*2017*
Discount rate	**4.23%**	3.62%	**4.17%**	3.53%
Compensation increase	**4.19%**	4.20%	**N/A**	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	**5.87%**	6.09%
Ultimate health care cost trend rate	**N/A**	N/A	**4.50%**	4.50%
Year ultimate trend rate reached	**N/A**	N/A	**2038**	2038

Expense

Both pension and OPEB expense are determined based upon the annual service cost of benefits (the actuarial cost of benefits earned during a period) and the interest cost on those liabilities, less the expected return on plan assets. The expected long-term rate of return on plan assets is applied to a calculated value of plan assets that recognizes changes in fair value over a five-year period. This practice is intended to reduce year-to-year volatility in pension expense, but it can have the effect of delaying the recognition of differences between actual returns on assets and expected returns based on long-term rate of return assumptions. Differences in actual experience in relation to assumptions are not recognized in net income immediately, but are deferred in accumulated other comprehensive income and, if necessary, amortized as pension or OPEB expense.

The workforce reduction plan initiated in the third quarter of 2017 included a curtailment loss of $20 million and a special termination benefit of $49 million as a result of a remeasurement as of September 30, 2017, due to the eliminated future service for approximately 460 management employees.

The components of our net periodic pension and OPEB cost were as follows for the years ended December 31:

	Pension			*OPEB*		
Millions	***2018***	*2017*	*2016*	***2018***	*2017*	*2016*
Net Periodic Benefit Cost:						
Service cost	**$ 105**	$ 90	$ 84	**$ 2**	$ 2	$ 1
Interest cost	**145**	142	143	**10**	10	11
Expected return on plan assets	**(272)**	(267)	(267)	-	-	-
Plan curtailment cost	**-**	20	-	-	-	-
Special termination cost	**-**	49	-	-	-	-
Amortization of:						
Prior service cost/ (credit)	**-**	-	-	**1**	1	(9)

Actuarial loss	**93**	81	83	**10**	9	10
Net periodic benefit cost	**$ 71**	$ 115	$ 43	**$ 23**	$ 22	$ 13

Assumptions – The weighted-average actuarial assumptions used to determine expense were as follows:

	Pension			*OPEB*		
Percentages	***2018***	*2017*	*2016*	***2018***	*2017*	*2016*
Discount rate for benefit obligations	**3.62%**	4.09%	4.37%	**3.54%**	3.89%	4.13%
Discount rate for interest on benefit obligations	**3.27%**	3.47%	3.65%	**3.14%**	3.25%	3.34%
Discount rate for service cost	**3.77%**	4.41%	4.69%	**3.71%**	4.25%	4.59%
Discount rate for interest on service cost	**3.72%**	4.27%	4.55%	**3.64%**	4.11%	4.44%
Expected return on plan assets	**7.00%**	7.00%	7.50%	**N/A**	N/A	N/A
Compensation increase	**4.19%**	4.13%	4.20%	**N/A**	N/A	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	N/A	**6.09%**	6.31%	6.52%
Ultimate health care cost trend rate	**N/A**	N/A	N/A	**4.50%**	4.50%	4.50%
Year ultimate trend reached	**N/A**	N/A	N/A	**2038**	2038	2038

Beginning in 2016, we measure the service cost and interest cost components of our net periodic benefit cost by using individual spot discount rates matched with separate cash flows for each future year. The discount rates were based on a yield curve of high quality corporate bonds. The expected return on plan assets is based on our asset allocation mix and our historical return, taking into account current and expected market conditions. The actual return/(loss) on pension plan assets, net of fees, was approximately (2)% in 2018, 19% in 2017, and 8% in 2016.

Assumed health care cost trend rates have an effect on the expense and liabilities reported for health care plans. The assumed health care cost trend rate is based on historical rates and expected market conditions. The 2019 assumed health care cost trend rate for employees under 65 is 5.87%. It is assumed the rate will decrease gradually to an ultimate rate of 4.5% in 2038 and will remain at that level. A one-percentage point change in the assumed health care cost trend rates would have the following effects on OPEB:

Millions	*One % pt. Increase*	*One % pt. Decrease*
Effect on total service and interest cost components	$ 1	$ (1)
Effect on accumulated benefit obligation	21	(17)

Cash Contributions

The following table details our cash contributions for the qualified pension plans and the benefit payments for the non-qualified (supplemental) pension and OPEB plans:

	Pension		
Millions	*Qualified*	*Non-qualified*	*OPEB*
2018	$ -	$ 29	$ 24
2017	-	24	22

Our policy with respect to funding the qualified plans is to fund at least the minimum required by law and not more than the maximum amount deductible for tax purposes. All contributions made to the qualified pension plans were voluntary and were made with cash generated from operations.

The non-qualified pension and OPEB plans are not funded and are not subject to any minimum regulatory funding requirements. Benefit payments for each year represent supplemental pension payments and claims paid for medical and life insurance. We anticipate our 2019 supplemental pension and OPEB payments will be made from cash generated from operations.

Benefit Payments

The following table details expected benefit payments for the years 2019 through 2028:

Millions	*Pension*	*OPEB*
2019	$ 223	$ 22
2020	220	21
2021	218	20
2022	217	20
2023	217	19
Years 2024 - 2028	1,113	86

Asset Allocation Strategy

Our pension plan asset allocation at December 31, 2018, and 2017, and target allocation for 2019, are as follows:

	Target Allocation 2019	*Percentage of Plan Assets December 31,*	
		2018	*2017*
Equity securities	60% to 70%	**56%**	69%
Debt securities	25% to 35%	**36**	22
Real estate	2% to 8%	**6**	5
Commodities	N/A	**2**	4
Total		**100%**	100%

The investment strategy for pension plan assets is to maintain a broadly diversified portfolio designed to achieve our target average long-term rate of return of 7.0%. While we believe we can achieve a long-term average rate of return of 7.0%, we cannot be certain that the portfolio will perform to our expectations. Assets are strategically allocated among equity, debt, and other investments in order to achieve a diversification level that reduces fluctuations in investment returns. Asset allocation target ranges for equity, debt, and other portfolios are evaluated at least every three years with the assistance of an independent consulting firm. Actual asset allocations are monitored monthly, and rebalancing actions are executed at least quarterly, as needed.

The pension plan investments are held in a Master Trust. The majority of pension plan assets are invested in equity securities because equity portfolios have historically provided higher returns than debt and other asset classes over extended time horizons and are expected to do so in the future. Correspondingly, equity investments also entail greater risks than other investments. Equity risks are balanced by investing a significant portion of the plans' assets in high quality debt securities. The average credit rating of the debt portfolio exceeded A at both December 31, 2018 and 2017. The debt portfolio is also broadly diversified and invested primarily in U.S. Treasury, mortgage, and corporate securities. The weighted-average maturity of the debt portfolio was 13 years at both December 31, 2018 and 2017.

The investment of pension plan assets in securities issued by UPC is explicitly prohibited by the plan for both the equity and debt portfolios, other than through index fund holdings.

Fair Value Measurements

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Temporary Cash Investments – These investments consist of U.S. dollars and foreign currencies held in master trust accounts at The Northern Trust Company (the Trustee). Foreign currencies held are reported in terms of U.S. dollars based on currency exchange rates readily available in active markets. These temporary cash investments are classified as Level 1 investments.

Registered Investment Companies – Registered Investment Companies are entities primarily engaged in the business of investing in securities and are registered with the Securities and Exchange Commission. The Plan's holdings of Registered Investment Companies include both public and private fund vehicles. The public vehicles are exchange-traded funds (stocks), which are classified as Level 1 investments. The private vehicles (bonds) do not have published pricing and are valued using Net Asset Value (NAV).

Federal Government Securities – Federal Government Securities consist of bills, notes, bonds, and other fixed income securities issued directly by the U.S. Treasury or by government-sponsored enterprises. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Federal Government Securities are classified as Level 2 investments.

Bonds and Debentures – Bonds and debentures consist of debt securities issued by U.S. and non-U.S. corporations as well as state and local governments. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Corporate, state, and municipal bonds and debentures are classified as Level 2 investments.

Corporate Stock – This investment category consists of common and preferred stock issued by U.S. and non-U.S. corporations. Most common shares are traded actively on exchanges and price quotes for these shares are readily available. Common stock is classified as a Level 1 investment. Preferred shares included in this category are valued using a bid evaluation process with bid data provided by independent pricing sources. Preferred stock is classified as a Level 2 investment.

Venture Capital and Buyout Partnerships – This investment category is comprised of interests in limited partnerships that invest primarily in privately-held companies. Due to the private nature of the partnership investments, pricing inputs are not readily observable. Asset valuations are developed by the general partners that manage the partnerships. These valuations are based on the application of public market multiples to private company cash flows, market transactions that provide valuation information for comparable companies, and other methods. The fair value recorded by the Plan is calculated using each partnership's NAV.

Real Estate Funds – Most of the Plan's real estate investments are primarily interests in private real estate investment trusts, partnerships, limited liability companies, and similar structures. Valuations for the holdings in this category are not based on readily observable inputs and are primarily derived from property appraisals. The fair value recorded by the Plan is calculated using the NAV for each investment.

Collective Trust and Other Funds – Collective trust and other funds are comprised of shares or units in commingled funds and limited liability companies that are not publicly traded. The underlying assets in these entities (U.S. stock funds, non-U.S. stock funds, commodity funds, hedge funds, and short term investment funds) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. The fair value recorded by the Plan is calculated using NAV for each investment.

As of December 31, 2018, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 21	$ -	$ -	$ 21
Registered investment companies [a]	1	-	-	1
Federal government securities	-	191	-	191
Bonds and debentures	-	538	-	538
Corporate stock	1,355	12	-	1,367
Total plan assets at fair value	$1,377	$ 741	$ -	$2,118
Plan assets at NAV:				
Registered investment companies [b]				378
Venture capital and buyout partnerships				443
Real estate funds				222
Collective trust and other funds				745
Total plan assets at NAV				$1,788

Other assets/(liabilities) [c]	(19)
Total plan assets	$3,887

[a] *Registered investment companies measured at fair value are stock investments.*

[b] *Registered investment companies measured at NAV include bond investments.*

[c] *Other assets include accrued receivables, net payables, and pending broker settlements.*

As of December 31, 2017, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 27	$ -	$ -	$ 27
Registered investment companies [a]	4	-	-	4
Federal government securities	-	182	-	182
Bonds and debentures	-	389	-	389
Corporate stock	1,171	8	-	1,179
Total plan assets at fair value	$1,202	$ 579	$ -	$1,781
Plan assets at NAV:				
Registered investment companies [b]				329
Venture capital and buyout partnerships				358
Real estate funds				226
Collective trust and other funds				1,552
Total plan assets at NAV				$2,465
Other assets/(liabilities) [c]				(22)
Total plan assets				$4,224

[a] Registered investment companies measured at fair value are stock investments.

[b] Registered investment companies measured at NAV include bond investments.

[c] Other assets include accrued receivables, net payables, and pending broker settlements.

For the years ended December 31, 2018 and 2017, there were no significant transfers in or out of Levels 1, 2, or 3.

The Master Trust's investments in limited partnerships and similar structures (used to invest in private equity and real estate) are valued at fair value based on their proportionate share of the partnerships' fair value as recorded in the limited partnerships' audited financial statements. The limited partnerships allocate gains, losses and expenses to the partners based on the ownership percentage as described in the partnership agreements. At December 31, 2018 and 2017, the Master Trust had future commitments for additional contributions to private equity partnerships totaling $248 million and $359 million, respectively, and to real estate partnerships and funds totaling $54 million and $67 million, respectively.

Other Retirement Programs

401(k)/Thrift Plan – For non-union employees hired prior to January 1, 2018, and eligible union employees for whom we make matching contributions, we provide a defined contribution plan (401(k)/thrift plan). We match 50 cents for each dollar contributed by employees up to the first 6% of compensation contributed. Our plan contributions were $18 million in 2018, $19 million in 2017, and $19 million in 2016. For non-union employees hired on or after January 1, 2018, we match dollar-for-dollar, up to the first 6% of compensation contributed, in addition to contributing an annual amount of 3% of the employee's annual base salary.

Railroad Retirement System – All Railroad employees are covered by the Railroad Retirement System (the System). Contributions made to the System are expensed as incurred and amounted to approximately $710 million in 2018, $672 million in 2017, and $671 million in 2016.

Collective Bargaining Agreements – Under collective bargaining agreements, we participate in multi-employer benefit plans that provide certain postretirement health care and life insurance benefits for eligible union employees. Premiums paid under these plans are expensed as incurred and amounted to $50 million in 2018, $60 million in 2017, and $50 million in 2016.

7. Other Income

Other income included the following for the years ended December 31:

Millions		***2018***		*2017*		*2016*
Rental income [a]	**$**	**122**	$	178	$	96
Early extinguishment of debt [b]		**(85)**		-		-
Net gain on non-operating asset dispositions [c] [d]		**30**		111		94
Interest income		**30**		16		11
Net periodic pension and OPEB		**13**		(45)		29
Non-operating environmental costs and other		**(16)**		(15)		(9)
Total	**$**	**94**	$	245	$	221

[a] 2017 includes $65 million related to a favorable litigation settlement in the third quarter.

[b] 2018 includes an $85 million debt extinguishment charge for the early redemption of certain bonds and debentures in the first quarter (Note 15).

[c] 2017 includes $26 million and $57 million related to a real estate sale in the first quarter and in the third quarter, respectively.

[d] 2016 includes $17 million and $50 million related to a real estate sale in the first quarter and second quarter, respectively.

8. Income Taxes

Components of income tax expense were as follows for the years ended December 31:

Millions	***2018***	*2017*	*2016*
Current tax expense:			
Federal	**$ 1,144**	$ 1,750	$ 1,518
State	**287**	235	176
Foreign	**5**	2	8
Total current tax expense	**1,436**	1,987	1,702
Deferred and other tax expense:			
Federal	**344**	(5,260)	692
State	**5**	183	139
Foreign	**(10)**	10	-
Total deferred and other tax expense/(benefit) [a]	**339**	(5,067)	831
Total income tax expense/(benefit)	**$ 1,775**	$ (3,080)	$ 2,533

[a] 2017 includes a $(5,935) million adjustment to income tax expense resulting from the Tax Cuts and Jobs Act. Of this amount, $(5,965) million is a federal income tax benefit and $30 million is a state income tax expense.

For the years ended December 31, reconciliations between statutory and effective tax rates are as follows:

Tax Rate Percentages	***2018***	*2017*	*2016*
Federal statutory tax rate	**21.0 %**	35.0 %	35.0 %
State statutory rates, net of federal benefits	**3.9**	3.1	3.1
Adjustment for Tax Cuts and Jobs Act	**-**	(77.8)	-
Excess tax benefits from equity compensation plans	**(0.4)**	(0.6)	(0.4)

Other deferred tax adjustments	**(0.6)**	0.4	-
Tax credits	**(0.1)**	0.1	(0.5)
Other	**(0.9)**	(0.6)	0.2
Effective tax rate	**22.9 %**	(40.4)%	37.4 %

Deferred tax assets and liabilities are recorded for the expected future tax consequences of events that are reported in different periods for financial reporting and income tax purposes. The majority of our deferred tax assets relate to deductions that already have been claimed for financial reporting purposes but not for tax purposes. The majority of our deferred tax liabilities relate to differences between the tax bases and financial reporting amounts of our land and depreciable property, due to accelerated tax depreciation (including bonus depreciation), revaluation of assets in purchase accounting transactions, and differences in capitalization methods.

On December 22, 2017, The Tax Cuts and Jobs Act (the Tax Act) was enacted. The Tax Act made significant changes to federal tax law, including a reduction in the federal income tax rate from 35% to 21% effective January 1, 2018, 100% bonus depreciation for certain capital expenditures, stricter limits on deductions for interest and certain executive compensation, and a one-time transition tax on previously deferred earnings of certain foreign subsidiaries. As a result of our initial analysis of the Tax Act and existing implementation guidance, we remeasured our deferred tax assets and liabilities and computed our transition tax liability net of offsetting foreign tax credits. This resulted in a $5.9 billion reduction in our income tax expense in the fourth quarter of 2017. We also recorded a $212 million reduction to our operating expense related to income tax adjustments at equity-method affiliates in the fourth quarter of 2017.

The SEC provided guidance in SAB 118 on accounting for the tax effects of the Tax Act. In accordance with that guidance, some of the income tax effects recorded in 2017 were provisional, including those related to our analysis of 100% bonus depreciation for certain capital expenditures, stricter limits on deductions for certain executive compensation, the one-time transition tax, and the reduction to our operating expense related to income tax adjustments at equity-method affiliates. The accounting for the income tax effects could have been adjusted during 2018 as a result of continuing analysis of the Tax Act; additional implementation guidance from the Internal Revenue Service (IRS), state tax authorities, the SEC, the FASB, or the Joint Committee on Taxation; and new information from domestic or foreign equity affiliates. We had no material adjustments to our accounting for the Tax Act during 2018.

In the second quarter of 2018, Iowa and Missouri enacted legislation to reduce their corporate tax rates for future years resulting in a $31 million reduction of our deferred tax expense.

In July of 2017, Illinois enacted legislation to increase its corporate income tax rate effective July 1, 2017. In the third quarter of 2017, we increased our deferred tax expense by $33 million to reflect the increased tax rate.

Deferred income tax (liabilities)/assets were comprised of the following at December 31:

Millions	***2018***	*2017*
Deferred income tax liabilities:		
Property	**$(11,590)**	$(11,262)
Other	**(213)**	(197)
Total deferred income tax liabilities	**(11,803)**	(11,459)
Deferred income tax assets:		
Accrued wages	**46**	46
Accrued casualty costs	**148**	147
Stock compensation	**44**	46
Retiree benefits	**138**	141
Credits	**-**	1
Other	**125**	142
Total deferred income tax assets	**$ 501**	$ 523
Net deferred income tax liability	**$(11,302)**	$(10,936)

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2018 and 2017, there were no valuation allowances.

Tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

A reconciliation of changes in unrecognized tax benefits liabilities/(assets) from the beginning to the end of the reporting period is as follows:

Millions	***2018***	*2017*	*2016*
Unrecognized tax benefits at January 1	**$ 179**	$ 125	$ 94
Increases for positions taken in current year	**30**	38	31
Increases for positions taken in prior years	**9**	51	10
Decreases for positions taken in prior years	**(30)**	(56)	(20)
Refunds from/(payments to) and settlements with taxing authorities	**21**	64	4
Increases/(decreases) for interest and penalties	**4**	-	6
Lapse of statutes of limitations	**(39)**	(43)	-
Unrecognized tax benefits at December 31	**$ 174**	$ 179	$ 125

We recognize interest and penalties as part of income tax expense. Total accrued liabilities for interest and penalties were $8 million at both December 31, 2018, and 2017. Total interest and penalties recognized as part of income tax expense (benefit) were ($1) million for 2018, ($3) million for 2017, and $5 million for 2016.

The IRS is examining UPC's 2016 tax return. The statute of limitations has run for all years prior to 2015. In 2017, UPC amended its 2013 income tax return, primarily to claim deductions resulting from the resolution of prior year IRS examinations. The IRS and Joint Committee on Taxation have completed their review of the 2013 return, and in the second quarter of 2018 we received a refund of $19 million.

In 2016, UPC amended its 2011 and 2012 income tax returns to claim deductions resulting from the resolution of IRS examinations for years prior to 2011. The IRS and Joint Committee on Taxation reviewed these amended returns. In the third quarter of 2017, we received a refund of $62 million, consisting of $60 million of tax and $2 million of interest.

Several state tax authorities are examining our state income tax returns for years 2015 through 2016.

We do not expect our unrecognized tax benefits to change significantly in the next 12 months.

The portion of our unrecognized tax benefits that relates to permanent changes in tax and interest would reduce our effective tax rate, if recognized. The remaining unrecognized tax benefits relate to tax positions for which only the timing of the benefit is uncertain. Recognition of the tax benefits with uncertain timing would reduce our effective tax rate only through a reduction of accrued interest and penalties. The unrecognized tax benefits that would reduce our effective tax rate are as follows:

Millions	***2018***	*2017*	*2016*
Unrecognized tax benefits that would reduce the effective tax rate	**$ 63**	$ 83	$ 31
Unrecognized tax benefits that would not reduce the effective tax rate	**111**	96	94
Total unrecognized tax benefits	**$ 174**	$ 179	$ 125

9. Earnings Per Share

The following table provides a reconciliation between basic and diluted earnings per share for the years ended December 31:

Millions, Except Per Share Amounts	***2018***	*2017*	*2016*
Net income	**$ 5,966**	$10,712	$ 4,233
Weighted-average number of shares outstanding:			
Basic	**750.9**	798.4	832.4
Dilutive effect of stock options	**1.9**	1.8	1.5
Dilutive effect of retention shares and units	**1.5**	1.5	1.5
Diluted	**754.3**	801.7	835.4
Earnings per share – basic	**$ 7.95**	$ 13.42	$ 5.09
Earnings per share – diluted	**$ 7.91**	$ 13.36	$ 5.07

Common stock options totaling 0.3 million, 1.6 million, and 2.0 million for 2018, 2017, and 2016, respectively, were excluded from the computation of diluted earnings per share because the exercise prices of these options exceeded the average market price of our common stock for the respective periods, and the effect of their inclusion would be anti-dilutive.

10. Accumulated Other Comprehensive Income/(Loss)

Reclassifications out of accumulated other comprehensive income/(loss) were as follows (net of tax):

Millions	*Defined benefit plans*	*Foreign currency translation*	*Total*
Balance at January 1, 2018	$ (1,029)	$ (112)	$ (1,141)
Other comprehensive income/(loss) before reclassifications	(1)	(36)	(37)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]	63	-	63
Net year-to-date other comprehensive income/(loss), net of taxes of $(22) million	62	(36)	26
Reclassification due to ASU 2018-02 adoption (Note 3)	(225)	(75)	(300)
Balance at December 31, 2018	$ (1,192)	$ (223)	$ (1,415)
Balance at January 1, 2017	$ (1,132)	$ (140)	$ (1,272)
Other comprehensive income/(loss) before reclassifications	2	28	30
Amounts reclassified from accumulated other	101	-	101

comprehensive income/(loss) [a]			
Net year-to-date other comprehensive income/(loss), net of taxes of $(61) million	103	28	131
Balance at December 31, 2017	$ (1,029)	$ (112)	$ (1,141)

[a] The accumulated other comprehensive income/(loss) reclassification components are 1) prior service cost/(benefit) and 2) net actuarial loss which are both included in the computation of net periodic pension cost. See Note 6 Retirement Plans for additional details.

11. Accounts Receivable

Accounts receivable includes freight and other receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. At both December 31, 2018, and 2017, our accounts receivable were reduced by $3 million. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position. At December 31, 2018, and 2017, receivables classified as other assets were reduced by allowances of $27 million and $17 million, respectively.

Receivables Securitization Facility – The Railroad maintains a $650 million, 3-year receivables securitization facility (the Receivables Facility), maturing in July 2019. Under the Receivables Facility, the Railroad sells most of its eligible third-party receivables to Union Pacific Receivables, Inc. (UPRI), a consolidated, wholly-owned, bankruptcy-remote subsidiary that may subsequently transfer, without recourse, an undivided interest in accounts receivable to investors. The investors have no recourse to the Railroad's other assets except for customary warranty and indemnity claims. Creditors of the Railroad do not have recourse to the assets of UPRI.

The amount outstanding under the Receivables Facility was $400 million and $500 million at December 31, 2018, and December 31, 2017, respectively. The Receivables Facility was supported by $1.4 billion and $1.1 billion of accounts receivable as collateral at December 31, 2018, and December 31, 2017, respectively, which, as a retained interest, is included in accounts receivable, net in our Consolidated Statements of Financial Position.

The outstanding amount the Railroad is allowed to maintain under the Receivables Facility, with a maximum of $650 million, may fluctuate based on the availability of eligible receivables and is directly affected by business volumes and credit risks, including receivables payment quality measures such as default and dilution ratios. If default or dilution ratios increase one percent, the allowable outstanding amount under the Receivables Facility would not materially change.

The costs of the Receivables Facility include interest, which will vary based on prevailing benchmark and commercial paper rates, program fees paid to participating banks, commercial paper issuance costs, and fees of participating banks for unused commitment availability. The costs of the Receivables Facility are included in interest expense and were $15 million, $6 million, and $7 million for 2018, 2017, and 2016, respectively.

12. Properties

The following tables list the major categories of property and equipment, as well as the weighted-average estimated useful life for each category (in years):

Millions, Except Estimated Useful Life As of December 31, 2018	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,264	$ N/A	$ 5,264	N/A
Road:				
Rail and other track material	16,785	6,156	10,629	43
Ties	10,409	3,025	7,384	34
Ballast	5,561	1,595	3,966	34
Other roadway [a]	19,584	3,766	15,818	48
Total road	52,339	14,542	37,797	N/A
Equipment:				
Locomotives	9,792	3,861	5,931	19
Freight cars	2,229	929	1,300	24
Work equipment and other	1,040	301	739	19
Total equipment	13,061	5,091	7,970	N/A
Technology and other	1,117	493	624	12
Construction in progress	1,024	-	1,024	N/A

Total	$72,805	$20,126	$52,679	N/A

[a] *Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.*

Millions, Except Estimated Useful Life *As of December 31, 2017*	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,258	$ N/A	$ 5,258	N/A
Road:				
Rail and other track material	16,327	5,929	10,398	43
Ties	10,132	2,881	7,251	33
Ballast	5,406	1,509	3,897	34
Other roadway [a]	18,972	3,482	15,490	47
Total road	50,837	13,801	37,036	N/A
Equipment:				
Locomotives	9,686	3,697	5,989	19
Freight cars	2,255	983	1,272	24
Work equipment and other	936	267	669	19
Total equipment	12,877	4,947	7,930	N/A
Technology and other	1,105	460	645	11
Construction in progress	736	-	736	N/A
Total	$70,813	$19,208	$51,605	N/A

[a] Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, and yard and switching tracks) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) is unusual, (ii) is material in amount, and (iii) varies significantly from the retirement profile identified through our depreciation studies. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

When we purchase an asset, we capitalize all costs necessary to make the asset ready for its intended use. However, many of our assets are self-constructed. A large portion of our capital expenditures is for replacement of existing track assets and other road properties, which is typically performed by our employees, and for track line expansion and other capacity projects. Costs that are directly attributable to capital projects (including overhead costs) are capitalized. Direct costs that are capitalized as part of self-constructed assets include material, labor, and work equipment. Indirect costs are capitalized if they clearly relate to the construction of the asset.

Normal repairs and maintenance are expensed as incurred, while costs incurred that extend the useful life of an asset, improve the safety of our operations or improve operating efficiency are capitalized. These costs are allocated using appropriate statistical bases. Total expense for repairs and maintenance incurred was $2.5 billion for 2018, $2.5 billion for 2017, and $2.3 billion for 2016.

Assets held under capital leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

13. Accounts Payable and Other Current Liabilities

Millions	***Dec. 31, 2018***	*Dec. 31, 2017*
Accounts payable	**$ 872**	$ 1,013
Income and other taxes payable	**694**	547
Accrued wages and vacation	**384**	384
Interest payable	**317**	220
Accrued casualty costs	**211**	194
Equipment rents payable	**107**	110
Other	**575**	671
Total accounts payable and other current liabilities	**$ 3,160**	$ 3,139

14. Financial Instruments

Short-Term Investments – All of the Company's short-term investments consist of time deposits and government agency securities. These investments are considered level 2 investments and are valued at amortized cost, which approximates fair value. On November 1, 2018, $30 million of the Company's $90 million in short-term investments were placed into a trust for the purpose of providing collateral for payment of certain other long-term liabilities, and as such were reclassified as other assets. All short-term investments have a maturity of less than one year and are classified as held-to-maturity. There were no transfers out of Level 2 during the year ended December 31, 2018.

Fair Value of Financial Instruments – The fair value of our short- and long-term debt was estimated using a market value price model, which utilizes applicable U.S. Treasury rates along with current market quotes on comparable debt securities. All of the inputs used to determine the fair market value of the Corporation's long-term debt are Level 2 inputs and obtained from an independent source. At December 31, 2018, the fair value of total debt was $21.9 billion, approximately $0.5 billion less than the carrying value. At December 31, 2017, the fair value of total debt was $18.2 billion, approximately $1.3 billion more than the carrying value. The fair value of the Corporation's debt is a measure of its current value under present market conditions. It does not impact the financial statements under current accounting rules. At December 31, 2018, and 2017, approximately $0 and $155 million, respectively of debt securities contained call provisions that allow us to retire the debt instruments prior to final maturity at par, without the payment of fixed call premiums. The fair value of our cash equivalents approximates their carrying value due to the short-term maturities of these instruments.

15. Debt

Total debt as of December 31, 2018, and 2017, is summarized below:

Millions	***2018***	*2017*
Notes and debentures, 1.8% to 7.9% due through 2067	**$20,627**	$15,096
Equipment obligations, 2.6% to 6.7% due through 2031	**969**	1,018
Capitalized leases, 3.1% to 8.0% due through 2028	**754**	892
Receivables Securitization (Note 11)	**400**	500
Term loans - floating rate, due in 2019	**250**	250
Commercial paper, 2.6% to 2.8% due in 2019	**200**	-
Medium-term notes, 9.3% to 10.0% due through 2020	**8**	18
Mortgage bonds, redeemed March 15, 2018	**-**	57
Unamortized discount and deferred issuance costs	**(817)**	(887)
Total debt	**22,391**	16,944
Less: current portion	**(1,466)**	(800)
Total long-term debt	**$20,925**	$16,144

Debt Maturities – The following table presents aggregate debt maturities as of December 31, 2018, excluding market value adjustments:

Millions	
2019	$ 1,467
2020	981
2021	1,267
2022	913
2023	1,396
Thereafter	17,184
Total principal	23,208
Unamortized discount and deferred issuance costs	(817)
Total debt	$22,391

Equipment Encumbrances – Equipment with a carrying value of approximately $1.8 billion and $2.0 billion at December 31, 2018, and 2017, respectively, served as collateral for capital leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

Debt Redemption – Effective as of March 15, 2018, we redeemed, in entirety, the Missouri Pacific 5% Income Debentures due 2045, the Chicago and Eastern Illinois 5% Income Debentures due 2054, and the Missouri Pacific 4.75% General Mortgage Income Bonds Series A due 2020 and Series B due 2030. The debentures had principal outstanding of $96 million and $2 million, respectively, and the bonds had principal outstanding of $30 million and $27 million, respectively. The bonds and debentures were assumed by the Railroad in the 1982 acquisition of the Missouri Pacific Railroad Company, with a weighted average interest rate of 4.9%. The carrying value of all four bonds and debentures at the time of redemption was $70 million, due to fair value purchase accounting adjustments related to the acquisition. The redemption resulted in an early extinguishment charge of $85 million in the first quarter of 2018.

Credit Facilities – During the second quarter of 2018, we replaced our $1.7 billion revolving credit facility, which was scheduled to expire in May 2019, with a new $2.0 billion facility that expires in June 2023 (the Facility). The Facility is based on substantially similar terms as those in the previous credit facility. At December 31, 2018, we had $2.0 billion of credit available under our revolving credit facility, which is designated for general corporate purposes and supports the issuance of commercial paper. We did not draw on either facility at any time during 2018. Commitment fees and interest rates payable under the Facility are similar to fees and rates available to comparably rated, investment-grade borrowers. The Facility allows for borrowings at floating rates based on London Interbank Offered Rates, plus a spread, depending upon credit ratings for our senior unsecured debt. The prior facility required UPC to maintain a debt-to-net-worth coverage ratio. The new five-year facility requires UPC to maintain a debt-to-EBITDA (earnings before interest, taxes, depreciation, and amortization) coverage ratio.

The definition of debt used for purposes of calculating the debt-to-EBITDA coverage ratio includes, among other things, certain credit arrangements, capital leases, guarantees, unfunded and vested pension benefits under Title IV of ERISA, and unamortized debt discount and deferred debt issuance costs. At December 31, 2018, the Company was in compliance with the debt-to-EBITDA coverage ratio, which allows us to carry up to $37.9 billion of debt (as defined in the Facility), and we had $23.2 billion of debt (as defined in the Facility) outstanding at that date. The Facility does not include any other financial restrictions, credit rating triggers (other than rating-dependent pricing), or any other provision that could require us to post collateral. The Facility also includes a $150 million cross-default provision and a change-of-control provision.

During 2018, we issued $8.5 billion and repaid $8.3 billion of commercial paper with maturities ranging from 1 to 34 days, and at December 31, 2018, and 2017, we had $200 million and $0 commercial paper outstanding, respectively. Our revolving credit facility supports our outstanding commercial paper balances, and, unless we change the terms of our commercial paper program, our aggregate issuance of commercial paper will not exceed the amount of borrowings available under the Facility.

In May 2018, we entered into a short-term bilateral line of credit agreement with $1.0 billion of credit available. During the three months ended June 30, 2018, we drew and repaid $750 million. The line of credit matured in August 2018. We used the proceeds for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs.

Shelf Registration Statement and Significant New Borrowings – We filed an automatic shelf registration statement with the SEC that became effective on February 12, 2018 (the Shelf). The Board of Directors authorized the issuance of up to $6 billion of debt securities, replacing the prior Board authorization in July 2016, which had $1.55 billion of authority remaining. Under our Shelf registration, we may issue, from time to time, any combination of debt securities, preferred stock, common stock, or warrants for debt securities or preferred stock in one or more offerings.

During 2018, we issued the following unsecured, fixed-rate debt securities under our current shelf registration:

Date	*Description of Securities*
June 8, 2018	$600 million of 3.200% Notes due June 8, 2021
	$650 million of 3.500% Notes due June 8, 2023
	$500 million of 3.750% Notes due July 15, 2025

	$1.5 billion of 3.950% Notes due September 10, 2028
	$750 million of 4.375% Notes due September 10, 2038
	$1.5 billion of 4.500% Notes due September 10, 2048
	$500 million of 4.800% Notes due September 10, 2058

We used the net proceeds from the offerings for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase programs. These debt securities include change-of-control provisions.

On July 26, 2018, the Board of Directors renewed its authorization for the Company to issue up to $6.0 billion of debt securities under the Shelf. This authorization replaces the original Board authorization in

February 2018 which had no remaining authority. At December 31, 2018, we had remaining authority to issue up to $6.0 billion of debt securities under our shelf registration.

Receivables Securitization Facility – As of December 31, 2018, and 2017, we recorded $400 million and $500 million, respectively, of borrowings under our Receivables Facility, as secured debt. (See further discussion of our receivables securitization facility in Note 11).

16. Variable Interest Entities

We have entered into various lease transactions in which the structure of the leases contain variable interest entities (VIEs). These VIEs were created solely for the purpose of doing lease transactions (principally involving railroad equipment and facilities) and have no other activities, assets or liabilities outside of the lease transactions. Within these lease arrangements, we have the right to purchase some or all of the assets at fixed prices. Depending on market conditions, fixed-price purchase options available in the leases could potentially provide benefits to us; however, these benefits are not expected to be significant.

We maintain and operate the assets based on contractual obligations within the lease arrangements, which set specific guidelines consistent within the railroad industry. As such, we have no control over activities that could materially impact the fair value of the leased assets. We do not hold the power to direct the activities of the VIEs and, therefore, do not control the ongoing activities that have a significant impact on the economic performance of the VIEs. Additionally, we do not have the obligation to absorb losses of the VIEs or the right to receive benefits of the VIEs that could potentially be significant to the VIEs.

We are not considered to be the primary beneficiary and do not consolidate these VIEs because our actions and decisions do not have the most significant effect on the VIE's performance and our fixed-price purchase options are not considered to be potentially significant to the VIEs. The future minimum lease payments associated with the VIE leases totaled $1.7 billion as of December 31, 2018.

17. Leases

We lease certain locomotives, freight cars, and other property. The Consolidated Statements of Financial Position as of December 31, 2018, and 2017 included $1,454 million, net of $912 million of accumulated depreciation, and $1,635 million, net of $953 million of accumulated depreciation, respectively, for properties held under capital leases. A charge to income resulting from the depreciation for assets held under capital leases is included within depreciation expense in our Consolidated Statements of Income. Future minimum lease payments for operating and capital leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2018, were as follows:

Millions	*Operating Leases*	*Capital Leases*
2019	$ 419	$ 148
2020	378	155
2021	303	159
2022	272	142
2023	234	94
Later years	1,040	200
Total minimum lease payments	$ 2,646	$ 898
Amount representing interest	N/A	(144)
Present value of minimum lease payments	N/A	$ 754

Approximately 97% of capital lease payments relate to locomotives. Rent expense for operating leases with terms exceeding one month was $397 million in 2018, $480 million in 2017, and $535 million in 2016. When cash rental payments are not made on a straight-line basis, we recognize variable rental expense on a straight-line basis over the lease term. Contingent rentals and sub-rentals are not significant.

18. Commitments and Contingencies

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 94% of the recorded liability is related to asserted claims and approximately 6% is related to unasserted claims at December 31, 2018. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $271 million to $297 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions	***2018***	*2017*	*2016*
Beginning balance	**$ 285**	$ 290	$ 318
Current year accruals	**74**	77	75
Changes in estimates for prior years	**(16)**	(7)	(29)
Payments	**(72)**	(75)	(74)
Ending balance at December 31	**$ 271**	$ 285	$ 290
Current portion, ending balance at December 31	**$ 72**	$ 66	$ 62

We reassess our estimated insurance recoveries annually and have recognized an asset for estimated insurance recoveries at December 31, 2018, and 2017. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 334 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 33 sites that are the subject of actions taken by the U.S. government, 21 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions	***2018***	*2017*	*2016*
Beginning balance	**$ 196**	$ 212	$ 190
Accruals	**84**	45	84
Payments	**(57)**	(61)	(62)
Ending balance at December 31	**$ 223**	$ 196	$ 212
Current portion, ending balance at December 31	**$ 59**	$ 57	$ 55

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Insurance – The Company has a consolidated, wholly-owned captive insurance subsidiary (the captive), that provides insurance coverage for certain risks including FELA claims and property coverage which are subject to reinsurance. The captive entered into annual reinsurance treaty agreements that insure workers compensation, general liability, auto liability and FELA risk. The captive cedes a portion of its FELA exposure through the treaty and assumes a proportionate share of the entire risk. The captive receives direct premiums, which are netted against the Company's premium costs in other expenses in the Consolidated Statements of Income. The treaty agreements provide for certain protections against the risk of treaty participants' non-performance, and we do not believe our exposure to treaty participants' non-performance is material at this time. We record both liabilities and reinsurance receivables using an actuarial analysis based on historical experience in our Consolidated Statements of Financial Position. Effective January 2019, the captive insurance subsidiary will no longer participate in the reinsurance treaty agreement. The Company established a trust in the fourth quarter of 2018 for the purpose of providing collateral as required under the reinsurance treaty agreement for prior years' participation.

Guarantees – At December 31, 2018, and 2017, we were contingently liable for $22 million and $33 million, respectively, in guarantees. The fair value of these obligations as of both December 31, 2018, and 2017 was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

Indemnities – We are contingently obligated under a variety of indemnification arrangements, although in some cases the extent of our potential liability is limited, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

Gain Contingency – UPRR filed multiple claims with the IRS for refunds of railroad retirement taxes (Railroad Retirement Taxes) paid on (i) certain stock awards to its employees and (ii) certain bonus payments it made to labor agreement employees during the years 1991 – 2017. In 2016, the U.S. District Court for the District of Nebraska (the District Court) denied UPRR recovery of these Railroad Retirement Taxes. UPRR appealed this denial to the U.S. Court of Appeals for the 8th Circuit (8th Circuit) and the 8th Circuit ruled in favor of UPRR and remanded the case to the District Court. The IRS appealed the 8th Circuit ruling to the U.S. Supreme Court. In June 2018, a similar case for another railroad was decided by the U.S. Supreme Court against the IRS and in favor of that railroad (*Wisconsin Central LTD., Et. Al. v. U.S.*). As a result, the U.S. Supreme Court denied the IRS request to appeal the 8th Circuit ruling. On November 28, 2018 the District Court issued an order granting summary judgment to UPRR pursuant to the mandate of the 8th Circuit. UPRR, the Department of Justice (DOJ), and the IRS have since agreed upon the tax refund amounts owed UPRR and its employees. UPRR’s employer refund of $78 million will be recognized as a reduction of compensation and benefit expenses and approximately $30 million of interest will be recognized in other income. UPRR expects to receive the refunds in 2019, but the refunds may be received in multiple portions at different times. UPRR is in the process of seeking consent from approximately 75,000 current and former employees to obtain their employee share of the refunds. UPRR anticipates having this consent process completed in the first half of 2019, but further actions by the IRS and Railroad Retirement Board may delay completion until later in 2019.

These refund claims are considered gain contingencies and no refund amounts have been recorded in the Consolidated Financial Statements as of December 31, 2018. The claims will be recorded when a final judgment from the District Court has been issued and all IRS requirements for UPRR's refunds have been fulfilled.

19. Share Repurchase Programs

Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020, replacing our previous repurchase program. As of December 31, 2018, we repurchased a total of $31.4 billion of our common stock since the commencement of our repurchase programs in 2007. The table below represents shares repurchased under this repurchase program.

	Number of Shares Purchased		*Average Price Paid*	
	2018	*2017*	***2018***	*2017*
First quarter	**9,259,004**	7,531,300	**$132.84**	$106.55
Second quarter [a]	**33,229,992**	7,788,283	**142.74**	109.10
Third quarter	**2,239,405**	11,801,755	**151.94**	106.69
Fourth quarter [b]	**12,490,632**	9,231,510	**153.04**	119.37
Total	**57,219,033**	36,352,848	**$143.75**	$110.40
Remaining number of shares that may be repurchased under current authority				26,428,119

[a] *Includes initial delivery of 19,870,292 shares repurchased under accelerated share repurchase programs.*

[b] *Includes 4,457,356 shares received upon settlement of accelerated share repurchase programs.*

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Open market repurchases are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2019, through February 7, 2019, we repurchased 3.4 million shares at an aggregate cost of approximately $521 million.

On February 7, 2019, the Board of Directors approved a new share repurchase authorization, enabling the Company to buy up to 150 million of its common shares by March 31, 2022. The new authorization is effective April 1, 2019, and replaces the current authorization, which will now expire on March 31, 2019.

Accelerated Share Repurchase Programs – On June 14, 2018, the Company established accelerated share repurchase programs (ASRs) with two financial institutions to repurchase shares of our common stock. Under these ASRs, we paid a pre-specified amount of $3.6 billion and received an initial delivery of 19,870,292 shares on June 15, 2018. Upon settlement of the ASRs, we received 4,457,356 additional shares in the fourth quarter of 2018. The final number of shares repurchased under the ASRs was based on the volume weighted average stock price of the Company's common stock during the ASR term, less a negotiated discount.

ASRs are accounted for as equity transactions, and at the time of receipt, shares are included in treasury stock at fair market value as of the corresponding initiation or settlement date. The Company reflects shares received as a repurchase of common stock in the weighted average common shares outstanding calculation for basic and diluted earnings per share.

20. Related Parties

UPRR and other North American railroad companies jointly own TTX Company (TTX). UPRR has a 36.79% economic and voting interest in

TTX while the other North American railroads own the remaining interest. In accordance with ASC 323 *Investments - Equity Method and Joint Venture*, UPRR applies the equity method of accounting to our investment in TTX.

TTX is a railcar pooling company that owns railcars and intermodal wells to serve North America's railroads. TTX assists railroads in meeting the needs of their customers by providing railcars in an efficient, pooled environment. All railroads have the ability to utilize TTX railcars through car hire by renting railcars at stated rates.

UPRR had $1.3 billion and $1.2 billion recognized as investments related to TTX in our Consolidated Statements of Financial Position as of December 31, 2018, and 2017, respectively. TTX car hire expenses of $429 million in 2018, $388 million in 2017, and $368 million in 2016 are included in equipment and other rents in our Consolidated Statements of Income. In addition, UPRR had accounts payable to TTX of $66 million and $69 million at December 31, 2018, and 2017, respectively.

21. Selected Quarterly Data (Unaudited)

Millions, Except Per Share Amounts				
2018	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,475	$ 5,672	$ 5,928	$ 5,757
Operating income	1,939	2,099	2,269	2,210
Net income	1,310	1,509	1,593	1,554
Net income per share:				
Basic	1.69	1.98	2.16	2.13
Diluted	1.68	1.98	2.15	2.12

Millions, Except Per Share Amounts				
2017	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,132	$ 5,250	$ 5,408	$ 5,450
Operating income	1,788	1,998	2,073	2,247
Net income	1,072	1,168	1,194	7,278
Net income per share:				
Basic	1.32	1.45	1.50	9.29
Diluted	1.32	1.45	1.50	9.25

Per share net income for the four quarters combined may not equal the per share net income for the year due to rounding.

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

None.

Item 9A. Controls and Procedures

As of the end of the period covered by this report, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation's management, including the Corporation's Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures pursuant to Exchange Act Rules 13a-15 and 15d-15. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based upon that evaluation, the CEO and the CFO concluded that, as of the end of the period covered by this report, the Corporation's disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified by the SEC, and that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, the CEO and CFO determined that there were no changes to the Corporation's internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Union Pacific Corporation and Subsidiary Companies (the Corporation) is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2018. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control – Integrated Framework (2013)*. Based on our assessment, management believes that, as of December 31, 2018, the Corporation's internal control over financial reporting is effective based on those criteria.

The Corporation's independent registered public accounting firm has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting. This report appears on the next page.

February 7, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Corporation as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements") and our report dated February 8, 2019 expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Corporation'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 Corporation'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 Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 8, 2019

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

(a) Directors of Registrant.

Information as to the names, ages, positions and offices with UPC, terms of office, periods of service, business experience during the past five years and certain other directorships held by each director or person nominated to become a director of UPC is set forth in the Election of Directors segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee and the independence of its members, along with information about the audit committee financial expert(s) serving on the Audit Committee, is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

(b) Executive Officers of Registrant.

Information concerning the executive officers of UPC and its subsidiaries is presented in Part I of this report under Executive Officers of the Registrant and Principal Executive Officers of Subsidiaries.

(c) Section 16(a) Compliance.

Information concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth in the Section 16(a) Beneficial Ownership Reporting Compliance segment of the Proxy Statement and is incorporated herein by reference.

(d) Code of Ethics for Chief Executive Officer and Senior Financial Officers of Registrant.

The Board of Directors of UPC has adopted the UPC Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the Code). A copy of the Code may be found on the Internet at our website www.up.com/investor/governance. We intend to disclose any amendments to the Code or any waiver from a provision of the Code on our website.

Item 11. Executive Compensation

Information concerning compensation received by our directors and our named executive officers is presented in the Compensation Discussion and Analysis, Summary Compensation Table, Grants of Plan-Based Awards in Fiscal Year 2018, Outstanding Equity Awards at 2018 Fiscal Year-End, Option Exercises and Stock Vested in Fiscal Year 2018, Pension Benefits at 2018 Fiscal Year-End, Nonqualified Deferred Compensation at 2018 Fiscal Year-End, Potential Payments Upon Termination or Change in Control and Director Compensation in Fiscal Year 2018 segments of the Proxy Statement and is incorporated herein by reference. Additional information regarding compensation of directors, including Board committee members, is set forth in the By-Laws of UPC and the Stock Unit Grant and Deferred Compensation Plan for the Board of Directors, both of which are included as exhibits to this report. Information regarding the Compensation and Benefits Committee is set forth in the Compensation Committee Interlocks and Insider Participation and Compensation Committee Report segments of the Proxy Statement and is incorporated herein by reference.

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

Information as to the number of shares of our equity securities beneficially owned by each of our directors and nominees for director, our named executive officers, our directors and executive officers as a group, and certain beneficial owners is set forth in the Security Ownership of Certain Beneficial Owners and Management segment of the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions and Director Independence

Information on related transactions is set forth in the Certain Relationships and Related Transactions and Compensation Committee Interlocks and Insider Participation segments of the Proxy Statement and is incorporated herein by reference. We do not have any relationship with any outside third party that would enable such a party to negotiate terms of a material transaction that may not be available to, or available from, other parties on an arm's-length basis.

Information regarding the independence of our directors is set forth in the Director Independence segment of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information concerning the fees billed by our independent registered public accounting firm and the nature of services comprising the fees for each of the two most recent fiscal years in each of the following categories: (i) audit fees, (ii) audit-related fees, (iii) tax fees, and (iv) all other fees, is set forth in the Independent Registered Public Accounting Firm's Fees and Services segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee's policies and procedures pertaining to pre-approval of audit and non-audit services rendered by our independent registered public accounting firm is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. <u>Exhibits, Financial Statement Schedules</u>

(a) Financial Statements, Financial Statement Schedules, and Exhibits:

(1) Financial Statements

The financial statements filed as part of this filing are listed on the index to the Financial Statements and Supplementary Data, Item 8, on page 44.

(2) Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

Schedules not listed above have been omitted because they are not applicable or not required or the information required to be set forth therein is included in the Financial Statements and Supplementary Data, Item 8, or notes thereto.

(3) Exhibits

Exhibits are listed in the exhibit index beginning on page 87. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 8th day of February, 2019.

UNION PACIFIC CORPORATION

By /s/ Lance M. Fritz

Lance M. Fritz, Chairman, President and Chief Executive Officer Union Pacific Corporation

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, on this 8th day of February, 2019, by the following persons on behalf of the registrant and in the capacities indicated.

PRINCIPAL EXECUTIVE OFFICER AND DIRECTOR:		
	By	/s/ Lance M. Fritz
		Lance M. Fritz, Chairman, President and Chief Executive Officer Union Pacific Corporation
PRINCIPAL FINANCIAL OFFICER:		
	By	/s/ Robert M. Knight, Jr.
		Robert M. Knight, Jr., Executive Vice President and Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

By /s/ Todd M. Rynaski
Todd M. Rynaski,
Vice President and Controller

DIRECTORS:

Andrew H. Card, Jr.*	Jane H. Lute*
Erroll B. Davis, Jr.*	Michael R. McCarthy*
William J. DeLaney*	Thomas F. McLarty III*
David B. Dillon*	Bhavesh V. Patel*
Deborah C. Hopkins*	Jose H. Villarreal*

*By Rhonda S. Ferguson
Rhonda S. Ferguson, Attorney-in-fact

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2018***	*2017*	*2016*
Accrued casualty costs:			
Balance, beginning of period	**$ 684**	$ 716	$ 736
Charges to expense	**202**	167	202
Cash payments and other reductions	**(177)**	(199)	(222)
Balance, end of period	**$ 709**	$ 684	$ 716
Accrued casualty costs are presented in the Consolidated Statements of Financial Position as follows:			
Current	**$ 211**	$ 194	$ 185
Long-term	**498**	490	531
Balance, end of period	**$ 709**	$ 684	$ 716

UNION PACIFIC CORPORATION
Exhibit Index

Exhibit No.	Description
Filed with this Statement	
10(a)	Form of Performance Stock Unit Agreement dated February 7, 2019.
10(b)	Form of Stock Unit Agreement for Executives dated February 7, 2019.
10(c)	Form of Non-Qualified Stock Option Agreement for Executives dated February 7, 2019.
21	List of the Corporation's significant subsidiaries and their respective states of incorporation.
23	Independent Registered Public Accounting Firm's Consent.
24	Powers of attorney executed by the directors of UPC.
31(a)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz.
31(b)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Robert M. Knight, Jr.
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz and Robert M. Knight, Jr.
101	eXtensible Business Reporting Language (XBRL) documents submitted electronically: 101.INS (XBRL Instance Document), 101.SCH (XBRL Taxonomy Extension Schema Document), 101.CAL (XBRL Calculation Linkbase Document), 101.LAB (XBRL Taxonomy Label Linkbase Document), 101.DEF (XBRL Taxonomy Definition Linkbase Document) and 101.PRE (XBRL Taxonomy Presentation Linkbase Document). The following financial and related information from Union Pacific Corporation's Annual Report on Form 10-K for the year ended December 31, 2018 (filed with the SEC on February 8, 2019), is formatted in XBRL and submitted electronically herewith: (i) Consolidated Statements of Income for the years ended December 31, 2018, 2017 and 2016, (ii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017, and 2016, (iii) Consolidated Statements of Financial Position at December 31, 2018 and December 31, 2017, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016, (v) Consolidated Statements of Changes in Common Shareholders' Equity for the years ended December 31, 2018, 2017 and 2016, and (vi) the Notes to the Consolidated Financial Statements.
Incorporated by Reference	

3(a)	Restated Articles of Incorporation of UPC, as amended and restated through June 27, 2011, and as further amended May 15, 2014, are incorporated herein by reference to Exhibit 3(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.
3(b)	By-Laws of UPC, as amended, effective November 19, 2015, are incorporated herein by reference to Exhibit 3.2 to the Corporation's Current Report on Form 8-K dated November 19, 2015.

4(a)	Indenture, dated as of December 20, 1996, between UPC and Wells Fargo Bank, National Association, as successor to Citibank, N.A., as Trustee, is incorporated herein by reference to Exhibit 4.1 to UPC's Registration Statement on Form S-3 (No. 333-18345).
4(b)	Indenture, dated as of April 1, 1999, between UPC and The Bank of New York, as successor to JP Morgan Chase Bank, formerly The Chase Manhattan Bank, as Trustee, is incorporated herein by reference to Exhibit 4.2 to UPC's Registration Statement on Form S-3 (No. 333-75989).
4(c)	Form of 3.200% Note due 2021 is incorporated herein by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(d)	Form of 3.500% Note due 2023 is incorporated herein by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(e)	Form of 3.750% Note due 2025 is incorporated herein by reference to Exhibit 4.3 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(f)	Form of 3.950% Note due 2028 is incorporated herein by reference to Exhibit 4.4 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(g)	Form of 4.375% Note due 2038 is incorporated herein by reference to Exhibit 4.5 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(h)	Form of 4.500% Note due 2048 is incorporated herein by reference to Exhibit 4.6 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
4(i)	Form of 4.800% Note due 2058 is incorporated herein by reference to Exhibit 4.7 to the Corporation's Current Report on Form 8-K dated June 8, 2018.
	Certain instruments evidencing long-term indebtedness of UPC are not filed as exhibits because the total amount of securities authorized under any single such instrument does not exceed 10% of the Corporation's total consolidated assets. UPC agrees to furnish the Commission with a copy of any such instrument upon request by the Commission.
10(d)	Supplemental Thrift Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(e)	Supplemental Pension Plan for Officers and Managers (409A Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended February 1, 2013, and March 1, 2013 is incorporated herein by reference to Exhibit 10(f) to

	the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(f)	Union Pacific Corporation Key Employee Continuity Plan, as amended February 6, 2014, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(g)	Union Pacific Corporation Executive Incentive Plan, effective May 5, 2005, amended and restated effective January 1, 2009, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(h)	Deferred Compensation Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(b) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.

10(i)	Deferred Compensation Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended December 17, 2013, is incorporated herein by reference to Exhibit 10(e) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(j)	Union Pacific Corporation 2000 Directors Plan, effective as of April 21, 2000, as amended November 16, 2006, January 30, 2007 and January 1, 2009 is incorporated herein by reference to Exhibit 10(j) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(k)	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Non-Grandfathered Component), effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(k) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(l)	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Grandfathered Component), as amended and restated in its entirety, effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(l) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(m)	Union Pacific Corporation 2013 Stock Incentive Plan, effective May 16, 2013, is incorporated herein by reference to Exhibit 4.3 to the Corporation's Form S-8 dated May 17, 2013.
10(n)	UPC 2004 Stock Incentive Plan amended March 1, 2013, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(o)	Amended and Restated Registration Rights Agreement, dated as of July 12, 1996, among UPC, UP Holding Company, Inc., Union Pacific Merger Co. and Southern Pacific Rail Corporation (SP) is incorporated herein by reference to Annex J to the Joint Proxy Statement/Prospectus included in Post-Effective Amendment No. 2 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(p)	Agreement, dated September 25, 1995, among UPC, UPRR, Missouri Pacific Railroad Company (MPRR), SP, Southern Pacific Transportation Company (SPT), The Denver & Rio Grande Western Railroad Company (D&RGW), St. Louis Southwestern Railway Company (SLSRC) and SPCSL Corp. (SPCSL), on the one hand, and Burlington Northern Railroad Company (BN) and The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), on the other hand, is incorporated by reference to Exhibit 10.11 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(q)	Supplemental Agreement, dated November 18, 1995, between UPC, UPRR, MPRR, SP, SPT, D&RGW, SLSRC and SPCSL, on the one hand, and BN and Santa Fe, on the other hand, is incorporated herein by reference to Exhibit 10.12 to UPC's Registration Statement on Form S-4 (No. 33-64707).

10(r)	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(s)	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(t)	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.

10(u)	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(v)	Form of 2016 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2015.
10(w)	Form of 2017 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2016.
10(x)	Form of 2018 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.
10(y)	Executive Incentive Plan (2005) – Deferred Compensation Program, dated December 21, 2005 is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2005.

10-K 1 unp-20171231x10k.htm 10-K

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2017

OR

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

For the transition period from __________ to ____________

Commission File Number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

UTAH	**13-2626465**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1400 DOUGLAS STREET, OMAHA, NEBRASKA

(Address of principal executive offices)

68179

(Zip Code)

(402) 544-5000

(Registrant's telephone number, including area code)

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

Title of each Class	Name of each exchange on which registered
Common Stock (Par Value $2.50 per share)	**New York Stock Exchange, Inc.**

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

☑ Yes ☐ No

- Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

☐ Yes ☑ No

- Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☑ Yes ☐ No

- Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted 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 and post such files).

☑ Yes ☐ No

- Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

☑

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

Large accelerated filer ☑	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐

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

☐ Yes ☑ No

- 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. ☐

- As of June 30, 2017, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was $87.3 billion.

The number of shares outstanding of the registrant's Common Stock as of February 2, 2018 was 779,305,276.

Documents Incorporated by Reference – Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 10, 2018, are incorporated by reference into Part III of this report. The registrant's Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A.

UNION PACIFIC CORPORATION
TABLE OF CONTENTS

February 9, 2018

Fellow Shareholders:

Looking back at 2017, I can report Union Pacific made progress building long-term value for our four key stakeholders – shareholders, communities, customers, and employees. After two consecutive years of overall volume declines, Union Pacific experienced a 2 percent increase in volume. This increase in volume, coupled with positive pricing and continued productivity improvement, generated reported earnings of $13.36 per share. After adjusting for the impact of corporate tax reform that was passed prior to year-end, our adjusted earnings were a record $5.79 per share*. This result is a 14 percent improvement compared to last year's $5.07 per share. Our adjusted operating ratio was a record 63.0 percent*, or 0.5 points better than last year's 63.5 percent.

Carloadings were up in our Industrial Products and Coal business units 12 percent and 6 percent, respectively, driven primarily by a robust increase in frac sand shipments. Automotive shipments were down 3 percent resulting from lower domestic sales and reduced vehicle production, while Chemical and Agricultural Product shipments were both down 2 percent as we experienced declines in our crude oil volumes and grain carloadings. Intermodal volumes were flat compared to 2016.

We faced several operational challenges during 2017, from significant flooding in the western portion of our network, to the unprecedented rain and flooding that accompanied Hurricane Harvey. Despite these challenges, the men and women of Union Pacific worked tirelessly and heroically to safely serve our customers. I am pleased with our results and look forward to continuing to build long-term enterprise value by building our Value Tracks.

Starting with **World Class Safety**, 2017 was another outstanding year for employee safety performance. Our reportable personal injury rate of 0.79 was off slightly from last year's all-time record low of 0.75. Our ultimate goal is zero incidents, getting every one of our employees home safely at the end of each day. We will maintain a relentless focus on data-driven processes and root-cause evaluations, as well as on internal safety programs such as Total Safety Culture and Courage to Care.

We have built centers of excellence around game-changing technology and other **Innovation** initiatives. Our **Engaged Team** is inspiring passion and dedication while leveraging diverse talents to extract the best ideas that will drive positive results across our Company. The continued implementation and execution of our "Grow to 55 and Zero" initiative drives significant **Resource Productivity**, from successfully aligning our resources to meet the increase in demand, to being more efficient in virtually everything that we do across the entire organization.

Given the challenges I mentioned above, our service product in 2017 did not meet all our customers' expectations, but we kept working to create an **Excellent Customer Experience**, anticipating customer needs, responding quickly, keeping commitments, and offering solutions. Our robust capital program helps provide the necessary resources and network capacity to build these relationships and prepare for future growth. It enables us to handle our business safely and efficiently, while improving network fluidity. We invested about $3.1 billion in 2017, including about $1.9 billion in replacement capital to harden our infrastructure, and to improve the safety and resiliency of our network, as well as nearly $340 million toward completing our Positive Train Control project.

A **Maximized Franchise** is much more than our unique physical footprint. It encompasses our employees' skills, our assets, and a strategy that emphasizes the importance of our customers' experiences. It also embraces a thoughtful approach to market penetration, the competitive landscape to determine future service offerings and to identify trade flow opportunities.

This successful execution of our value track strategy to the benefit of all our stakeholders translates into value for our shareholders. Total shareholder return increased 32 percent in 2017, compared with 22 percent for the S&P 500. Our net return on invested capital* of 13.7 percent increased a full percentage point over last year's 12.7 percent. We increased our quarterly declared dividend per share by 10 percent, with dividends paid in 2017 totaling $2.0 billion. In addition, we repurchased 36 million Union Pacific shares. In total, combining both dividends and share repurchases, Union Pacific returned $6 billion to our shareholders in 2017.

Looking to 2018, we are optimistic the economy will favor many of the segments which drive our core business, leading us to another year of positive volume growth. We will continue to execute on our Value Tracks to benefit our employees, partner with the communities in which we serve, provide our customers an excellent experience, and generate strong returns for our shareholders.

Fritz_Lance_sig.tif

Chairman, President and Chief Executive Officer

*See Item 7 of this report for reconciliations to U.S. GAAP.

DIRECTORS AND SENIOR MANAGEMENT

BOARD OF DIRECTORS

Andrew H. Card, Jr.
Former White House
Chief of Staff
Board Committees: Audit,
Compensation and Benefits

Erroll B. Davis, Jr.
Former Chairman,
President & CEO
Alliant Energy Corporation
Board Committees: Compensation and Benefits (Chair), Corporate Governance and Nominating

David B. Dillon
Former Chairman
The Kroger Company
Board Committees: Audit (Chair),
Compensation and Benefits

Lance M. Fritz
Chairman, President and
Chief Executive Officer
Union Pacific Corporation and
Union Pacific Railroad Company

Deborah C. Hopkins
Former Chief Executive Officer
Citi Ventures
Former Chief Innovation Officer
Citi
Board Committees: Corporate Governance and Nominating, Finance

Jane H. Lute
President and Chief Executive Officer
SICPA North America
Board Committees: Audit, Corporate Governance and Nominating

Michael R. McCarthy
Chairman
McCarthy Group, LLC
Lead Independent Director
Board Committees: Corporate Governance and Nominating (Chair), Finance

Michael W. McConnell
General Partner and
Former Managing Partner
Brown Brothers Harriman & Co.
Board Committees: Audit, Finance

Thomas F. McLarty III
President
McLarty Associates
Board Committees: Finance (Chair), Corporate Governance and
Nominating

Bhavesh V. Patel
Chief Executive Officer and
Chairman of the Management Board
LyondellBasell Industries N.V.
Board Committees: Finance, Compensation and Benefits

Steven R. Rogel
Former Chairman
Weyerhaeuser Company
Board Committees: Compensation and Benefits, Corporate Governance
and Nominating

Jose H. Villarreal
Advisor
Akin, Gump, Strauss, Hauer &
Feld, LLP
Board Committees: Audit,
Compensation and Benefits

SENIOR MANAGEMENT*

Lance M. Fritz
Chairman, President and
Chief Executive Officer

Bryan L. Clark
Vice President-Tax

Rhonda S. Ferguson
Executive Vice President, Chief Legal
Officer and Corporate Secretary

D. Lynn Kelley
Senior Vice President-Supply and
Continuous Improvement

Robert M. Knight, Jr.
Executive Vice President
and Chief Financial Officer

Sherrye L. Hutcherson
Senior Vice President and Chief Human Resource Officer

Scott D. Moore
Senior Vice President and
Chief Administrative Officer

Jon T. Panzer
Vice President and Treasurer

Michael A. Rock
Vice President-External Relations

Todd M. Rynaski
Vice President and Controller

Cameron A. Scott
Executive Vice President and
Chief Operating Officer

Lynden L. Tennison
Senior Vice President and
Chief Information Officer

Elizabeth F. Whited
Executive Vice President and
Chief Marketing Officer

*Senior management are elected officers of both Union Pacific Corporation and Union Pacific Railroad Company, except Mr. Scott, Ms. Kelley and Ms. Whited are elected officers for Union Pacific Railroad Company.

PART I

Item 1. Business

GENERAL

Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation. One of America's most recognized companies, Union Pacific Railroad Company links 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain. The Railroad's diversified business mix includes Agricultural Products, Automotive, Chemicals, Coal, Industrial Products and Intermodal. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient and environmentally responsible manner.

Union Pacific Corporation was incorporated in Utah in 1969 and maintains its principal executive offices at 1400 Douglas Street, Omaha, NE 68179. The telephone number at that address is (402) 544-5000. The common stock of Union Pacific Corporation is listed on the New York Stock Exchange (NYSE) under the symbol "UNP".

For purposes of this report, unless the context otherwise requires, all references herein to "UPC", "Corporation", "Company", "we", "us", and "our" shall mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which we separately refer to as "UPRR" or the "Railroad".

Available Information – Our Internet website is www.up.com. We make available free of charge on our website (under the "Investors" caption link) our Annual Reports on Form 10-K; our Quarterly Reports on Form 10-Q; eXtensible Business Reporting Language (XBRL) documents; our current reports on Form 8-K; our proxy statements; Forms 3, 4, and 5, filed on behalf of our directors and certain executive officers; and amendments to such reports filed or furnished pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act). We provide these reports and statements as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). We also make available on our website previously filed SEC reports and exhibits via a link to EDGAR on the SEC's Internet site at www.sec.gov. Additionally, our corporate governance materials, including By-Laws, Board Committee charters, governance guidelines and policies, and codes of conduct and ethics for directors, officers, and employees are available on our website. From time to time, the corporate governance materials on our website may be updated as necessary to comply with rules issued by the SEC and the NYSE or as desirable to promote the effective and efficient governance of our Company. Any security holder wishing to receive, without charge, a copy of any of our SEC filings or corporate governance materials should send a written request to: Secretary, Union Pacific Corporation, 1400 Douglas Street, Omaha, NE 68179.

We have included the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) certifications regarding our public disclosure required by Section 302 of the Sarbanes-Oxley Act of 2002 as Exhibits 31(a) and (b) to this report.

References to our website address in this report, including references in Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, are provided as a convenience and do not constitute, and should not be deemed, an incorporation by reference of the information contained on, or available through, the website. Therefore, such information should not be considered part of this report.

OPERATIONS

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide revenue by commodity group, we analyze the net financial results of the Railroad as one segment due to the integrated nature of our rail network. Additional information regarding our business and operations, including revenue and financial information and data and other information regarding environmental matters, is presented in Risk Factors, Item 1A; Legal Proceedings, Item 3; Selected Financial Data, Item 6; Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7; and the Financial Statements and Supplementary Data, Item 8 (which include information regarding revenues, statements of income, and total assets).

2017 Freight Revenue

Operations – UPRR is a Class I railroad operating in the U.S. We have 32,122 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and eastern U.S. gateways and providing several corridors to key Mexican gateways. We serve the Western two-thirds of the country and maintain coordinated schedules with other rail carriers to move freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic moves through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders. Our freight traffic consists of bulk, manifest, and premium business. Bulk traffic primarily consists of coal, grain, soda ash, ethanol, rock and crude oil shipped in unit trains – trains transporting a single commodity from one origin to one destination. Manifest traffic includes individual carload or less than train-load business involving commodities such as lumber, steel, paper, food and chemicals. The transportation of finished vehicles, auto parts, intermodal containers and truck trailers are included as part of our premium business. In 2017, we generated freight revenues totaling $19.8 billion from the following six commodity groups:

Agricultural Products – Transportation of grains, commodities produced from these grains, and food and beverage products generated 19% of the Railroad's 2017 freight revenue. We access most major grain markets, linking the Midwest and Western U.S. producing areas to export terminals in the Pacific Northwest and Gulf Coast ports, as well as Mexico. We also serve significant domestic markets, including grain processors, animal feeders and ethanol producers in the Midwest, West, South and Rocky Mountain states. Unit trains, which transport a single commodity between producers and export terminals or domestic markets, represent approximately 41% of our agricultural shipments.

Automotive – We are the largest automotive carrier west of the Mississippi River and operate or access 38 vehicle distribution centers. The Railroad's extensive franchise serves five vehicle assembly plants and connects to West Coast ports, all six major Mexico gateways, and the Port of Houston to accommodate both import and export shipments. In addition to transporting finished vehicles, UPRR provides expedited handling of automotive parts in both boxcars and intermodal containers destined for Mexico, the U.S. and Canada. The automotive group generated 10% of Union Pacific's freight revenue in 2017.

Chemicals – Transporting chemicals generated 18% of our freight revenue in 2017. The Railroad's unique franchise serves the chemical producing areas along the Gulf Coast, where roughly 55% of the Company's chemical business originates, travels through, or terminates. Our chemical franchise also accesses chemical producers in the Rocky Mountains and on the West Coast. The Company's chemical shipments include six categories: industrial chemicals, plastics, fertilizer, petroleum and liquid petroleum gases, crude oil and soda ash. Currently, these products move primarily to and from the Gulf Coast region. Fertilizer movements originate in the Gulf Coast region, the western U.S. and Canada (through interline access) for delivery to major agricultural users in the Midwest, western U.S., as well as abroad. Soda ash originates in southwestern Wyoming and California, destined for chemical and glass producing markets in North America and abroad.

Coal – Shipments of coal, petroleum coke, and biomass accounted for 13% of our freight revenue in 2017. The Railroad's network supports the transportation of coal, petroleum coke, and biomass to independent and regulated power companies and industrial facilities throughout the U.S. Through interchange gateways and ports, UPRR's reach extends to eastern U.S. utilities, as well as to Mexico and other international destinations. Coal traffic originating in the Powder River Basin (PRB) area of Wyoming is the largest segment of the Railroad's coal business.

Industrial Products – Our extensive network facilitates the movement of numerous commodities between thousands of origin and destination points throughout North America. The Industrial Products group consists of several categories, including construction products, minerals, consumer goods, metals, lumber, paper, and other miscellaneous products. In 2017, this group generated 21% of our total freight revenue. Commercial, residential and governmental infrastructure investments drive shipments of steel, aggregates (cement components), cement and wood products. Oil and gas drilling generates demand for raw steel, finished pipe, frac sand, stone and drilling fluid commodities. Industrial and light manufacturing plants receive steel, nonferrous materials, minerals and other raw materials. Paper and packaging commodities, as well as appliances, move to major metropolitan areas for consumers. Lumber shipments originate primarily in the Pacific Northwest and western Canada and move throughout the U.S. for use in new home construction and repair and remodeling.

Intermodal – Our Intermodal business includes two segments: international and domestic. International business consists of import and export container traffic that mainly passes through West Coast ports served by UPRR's extensive terminal network. Domestic business includes container and trailer traffic picked up and delivered within North America for intermodal marketing companies (primarily shipper agents and logistics companies), as well as truckload carriers. Less-than-truckload and package carriers with time-sensitive business requirements are also an important part of domestic shipments. Together, our international and domestic Intermodal business generated 19% of our 2017 freight revenue.

Seasonality – Some of the commodities we carry have peak shipping seasons, reflecting either or both the nature of the commodity and the demand cycle for the commodity (such as certain agricultural and food products that have specific growing and harvesting seasons). The peak shipping seasons for these commodities can vary considerably each year depending upon various factors, including the strength of domestic and international economies and currencies and the strength of harvests and market prices for agricultural products.

Working Capital – At December 31, 2017, we had a working capital surplus. We maintain adequate resources, and when necessary, have adequate access to capital markets to meet any foreseeable cash requirements, in addition to sufficient financial capacity to satisfy our current liabilities. At December 31, 2016, we had a working capital deficit, due primarily to a decrease in other current assets related to a tax receivable for the late extension of bonus depreciation at December 31, 2015, along with an increase at December 31, 2016, in accounts payable and upcoming debt maturities.

Competition – We are subject to competition from other railroads, motor carriers, ship and barge operators, and pipelines. Our main railroad competitor is Burlington Northern Santa Fe LLC. Its primary subsidiary, BNSF Railway Company (BNSF), operates parallel routes in many of our main traffic corridors. In addition, we operate in corridors served by other railroads and motor carriers. Motor carrier competition exists for five of our six commodity groups (excluding most coal shipments). Because of the proximity of our routes to major inland and Gulf Coast waterways, barges can be particularly competitive, especially for grain and bulk commodities in certain areas where we operate. In addition to price competition, we face competition with respect to transit times, quality and reliability of service from motor carriers and other railroads. Motor carriers in particular can have an advantage over railroads with respect to transit times and timeliness of service. However, railroads are much more fuel-efficient than trucks, which reduces the impact of transporting goods on the environment and public infrastructure, and we have been making efforts to convert certain truck traffic to rail. Additionally, we must build or acquire and maintain our rail system; trucks and barges are able to use public rights-of-way maintained by public entities. Any of the following could also affect the competitiveness of our transportation services for some or all of our commodities: (i) improvements or expenditures materially increasing the quality or reducing the costs of these alternative modes of transportation, (ii) legislation that eliminates or significantly increases the size or weight limitations applied to motor carriers, or (iii) legislation or regulatory changes that impose operating restrictions on railroads or that adversely affect the profitability of some or all railroad traffic. Finally, many movements face product or geographic competition where our customers can use different products (e.g. natural gas instead of coal, sorghum instead of corn) or commodities from different locations (e.g. grain from states or countries that we do not serve, crude oil from different regions). Sourcing different commodities or different locations allows shippers to substitute different carriers and such competition may reduce our volume or constrain prices. For more information regarding risks we face from competition, see the Risk Factors in Item 1A of this report.

Key Suppliers – We depend on two key domestic suppliers of high horsepower locomotives. Both suppliers provide parts for locomotives and one also provides maintenance under a service agreement. Due to the capital intensive nature of the locomotive manufacturing business and sophistication of this equipment, potential new suppliers face high barriers of entry into this industry. Therefore, if one of these domestic suppliers discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including insolvency or bankruptcy, we could experience a significant cost increase and risk reduced availability of the locomotives that are necessary to our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical for maintenance, replacement, improvement, and expansion of our network and facilities. Rail manufacturing also has high barriers of entry, and, if one of those suppliers discontinues operations for any reason, including insolvency or bankruptcy, we could experience cost increases and difficulty obtaining rail.

Employees – Approximately 85% of our 41,992 full-time-equivalent employees are represented by 14 major rail unions. On January 1, 2015, current labor agreements became subject to modification and we began the current round of negotiations with the unions. Existing agreements remain in effect until new agreements are ratified or the Railway Labor Act's (RLA) procedures (which include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention) are exhausted. Through industry and local negotiations, UPRR reached tentative new agreements with 12 of our 14 major rail unions. Nine unions (representing nearly 70% of our agreement work force) have ratified those agreements by significant margins. The tentative agreement failed ratification with two unions in early February 2018 (representing about 10% of our agreement work force) returning any further discussions with them to the jurisdiction of the National Mediation Board. Another small union (less than 1%) is still out for ratification. UPRR and the industry currently continue in active mediation with the remaining coalition of two unions (representing about 20% of our agreement work force). Under the Railway Labor Act, the National Mediation Board controls timing and location of mediation conferences and when to terminate mediation, moving the parties to the next stages of the RLA process. Contract negotiations historically continue for an extended period of time and we rarely experience work stoppages while negotiations are pending.

Railroad Security – Our security efforts consist of a wide variety of measures including employee training, engagement with our customers, training of emergency responders, and partnerships with numerous federal, state, and local government agencies. While federal law requires us to protect the confidentiality of our security plans designed to safeguard against terrorism and other security incidents, the following provides a general overview of our security initiatives.

UPRR Security Measures – We maintain a comprehensive security plan designed to both deter and respond to any potential or actual threats as they arise. The plan includes four levels of alert status, each with its own set of countermeasures. We employ our own police force, consisting of more than 250 commissioned and highly-trained officers. Our employees also undergo recurrent security and preparedness training, as well as federally-mandated hazardous materials and security training. We regularly review the sufficiency of our employee training programs. We maintain the capability to move critical operations to back-up facilities in different locations.

We operate an emergency response management center 24 hours a day. The center receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, law enforcement and other government officials. In cooperation with government officials, we monitor both threats and public events, and, as necessary, we may alter rail traffic flow at times of concern to minimize risk to communities and our operations. We comply with the hazardous materials routing rules and other requirements imposed by federal law. We also design our operating plan to expedite the movement of hazardous material shipments to minimize the time rail cars remain idle at yards and terminals located in or near major population centers. Additionally, in compliance with Transportation Security Agency regulations, we deployed information systems and instructed employees in tracking and documenting the handoff of Rail Security Sensitive Materials with customers and interchange partners.

We also have established a number of our own innovative safety and security-oriented initiatives ranging from various investments in technology to The Officer on Train program, which provides local law enforcement officers with the opportunity to ride with train crews to enhance their understanding of railroad operations and risks. Our staff of information security professionals continually assesses cyber security risks and implements mitigation programs that evolve with the changing technology threat environment. To date, we have not experienced any material disruption of our operations due to a cyber threat or attack directed at us.

Cooperation with Federal, State, and Local Government Agencies – We work closely on physical and cyber security initiatives with government agencies, including the U.S. Department of Transportation (DOT) and the Department of Homeland Security (DHS) as well as local police departments, fire departments, and other first responders. In conjunction with the Association of American Railroads (AAR), we sponsor Ask Rail, a mobile application which provides first responders with secure links to electronic information, including commodity and emergency response information required by emergency personnel to respond to accidents and other situations. We also participate in the National Joint Terrorism Task Force, a multi-agency effort established by the U.S. Department of Justice and the Federal Bureau of Investigation to combat and prevent terrorism.

We work with the Coast Guard, U.S. Customs and Border Protection (CBP), and the Military Transport Management Command, which monitor shipments entering the UPRR rail network at U.S. border crossings and ports. We were the first railroad in the U.S. to be named a partner in CBP's Customs-Trade Partnership Against Terrorism, a partnership designed to develop, enhance, and maintain effective security processes throughout the global supply chain.

Cooperation with Customers and Trade Associations – Through TransCAER (Transportation Community Awareness and Emergency Response) we work with the AAR, the American Chemistry Council, the American Petroleum Institute, and other chemical trade groups to provide communities with preparedness tools, including the training of emergency responders. In cooperation with the Federal Railroad Administration (FRA) and other interested groups, we are also working to develop additional improvements to tank car design that will further limit the risk of releases of hazardous materials.

GOVERNMENTAL AND ENVIRONMENTAL REGULATION

Governmental Regulation – Our operations are subject to a variety of federal, state, and local regulations, generally applicable to all businesses. (See also the discussion of certain regulatory proceedings in Legal Proceedings, Item 3.)

The operations of the Railroad are also subject to the regulatory jurisdiction of the Surface Transportation Board (STB). The STB has jurisdiction over rates charged on certain regulated rail traffic; common carrier service of regulated traffic; freight car compensation; transfer, extension, or abandonment of rail lines; and acquisition of control of rail common carriers. The STB continues its efforts to explore expanding rail regulation and is reviewing proposed rulemaking in various areas, including reciprocal switching, commodity exemptions, and expanding and easing procedures for smaller rate complaints. The STB also continues to develop a methodology for determining railroad revenue adequacy and the possible use of a revenue adequacy constraint in regulating railroad rates. The STB posts quarterly reports on rate reasonableness cases and maintains a database on service complaints, and has the authority to initiate investigations, among other things.

The operations of the Railroad also are subject to the regulations of the FRA and other federal and state agencies. In 2010, the FRA issued initial rules governing installation of Positive Train Control (PTC) that now has a deadline of December 31, 2018. The PTC implementation deadline may be extended to December 31, 2020, provided certain other criteria are satisfied. PTC is a collision avoidance technology intended to override engineer controlled locomotives and stop train-to-train and overspeed accidents, misaligned switch derailments, and unauthorized entry to work zones. Final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours. Through 2017, we have invested approximately $2.6 billion in the ongoing development of PTC.

DOT, the Occupational Safety and Health Administration, the Pipeline and Hazardous Materials Safety Administration, and DHS, along with other federal agencies, have jurisdiction over certain aspects of safety, movement of hazardous materials and hazardous waste, emissions requirements, and equipment standards. Additionally, various state and local agencies have jurisdiction over disposal of hazardous waste and seek to regulate movement of hazardous materials in ways not preempted by federal law.

Environmental Regulation – We are subject to extensive federal and state environmental statutes and regulations pertaining to public health and the environment. The statutes and regulations are administered and monitored by the Environmental Protection Agency (EPA) and by various state environmental agencies. The primary laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating waste water discharges.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7 and Note 18 to the Consolidated Financial Statements in Item 8, Financial Statements and Supplementary Data.

Item 1A. Risk Factors

The information set forth in this Item 1A should be read in conjunction with the rest of the information included in this report, including Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and Financial Statements and Supplementary Data, Item 8.

We Must Manage Fluctuating Demand for Our Services and Network Capacity – If there are significant reductions in demand for rail services with respect to one or more commodities or changes in consumer preferences that affect the businesses of our customers, we may experience increased costs associated with resizing our operations, including higher unit operating costs and costs for the storage of locomotives, rail cars, and other equipment; work-force adjustments; and other related activities, which could have a material adverse effect on our results of operations, financial condition, and liquidity. If there is significant demand for our services that exceeds the designed capacity of our network, we may experience network difficulties, including congestion and reduced velocity, that could compromise the level of service we provide to our customers. This level of demand may also compound the impact of weather and weather-related events on our operations and velocity. Although we continue to improve our transportation plan, add capacity, improve operations at our yards and other facilities, and improve our ability to address surges in demand for any reason with adequate resources, we cannot be sure that these measures will fully or adequately address any service shortcomings resulting from demand exceeding our planned capacity. We may experience other operational or service difficulties related to network capacity, dramatic and unplanned fluctuations in our customers' demand for rail service with respect to one or more commodities or operating regions, or other events that could negatively impact our operational efficiency, any of which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Transport Hazardous Materials – We transport certain hazardous materials and other materials, including crude oil, ethanol, and toxic inhalation hazard (TIH) materials, such as chlorine, that pose certain risks in the event of a release or combustion. Additionally, U.S. laws impose common carrier obligations on railroads that require us to transport certain hazardous materials regardless of risk or potential exposure to loss. A rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release or combustion of hazardous materials could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation in excess of our insurance coverage for these risks, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Governmental Regulation – We are subject to governmental regulation by a significant number of federal, state, and local authorities covering a variety of health, safety, labor, environmental, economic (as discussed below), and other matters. Many laws and regulations require us to obtain and maintain various licenses, permits, and other authorizations, and we cannot guarantee that we will continue to be able to do so. Our failure to comply with applicable laws and regulations could have a material adverse effect on us. Governments or regulators may change the legislative or regulatory frameworks within which we operate without providing us any recourse to address any adverse effects on our business, including, without limitation, regulatory determinations or rules regarding dispute resolution, increasing the amount of our traffic subject to common carrier regulation, business relationships with other railroads, calculation of our cost of capital or other inputs relevant to computing our revenue adequacy, the prices we charge, and costs and expenses. Significant legislative activity in Congress or regulatory activity by the STB could expand regulation of railroad operations and prices for rail services, which could reduce capital spending on our rail network, facilities and equipment and have a material adverse effect on our results of operations, financial condition, and liquidity. As part of the Rail Safety Improvement Act of 2008, rail carriers were to implement PTC by the end of 2015 (the Rail Safety Improvement Act). The Surface Transportation Extension Act of 2015 amended the Rail Safety Improvement Act to require implementation of PTC by the end of 2018, which deadline may be extended to December 31, 2020, provided certain other criteria are satisfied. Final implementation of PTC will require us to adapt and integrate our system with other railroads whose implementation plan may be different than ours. This implementation could have a material adverse effect on our results of operations and financial condition. Additionally, one or more consolidations of Class I railroads could also lead to increased regulation of the rail industry.

We May Be Affected by General Economic Conditions – Prolonged severe adverse domestic and global economic conditions or disruptions of financial and credit markets may affect the producers and consumers of the commodities we carry and may have a material adverse effect on our access to liquidity and our results of operations and financial condition.

We Face Competition from Other Railroads and Other Transportation Providers – We face competition from other railroads, motor carriers, ships, barges, and pipelines. In addition to price competition, we face competition with respect to transit times and quality and reliability of service. We must build or acquire and maintain our rail system, while trucks, barges and maritime operators are able to use public rights-of-way maintained by public entities. Any future improvements or expenditures materially increasing the quality or reducing the cost of alternative modes of transportation, or legislation that eliminates or significantly increases the size or weight limitations currently applicable to motor carriers, could have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, any future consolidation of the rail industry could materially affect the competitive environment in which we operate.

We Rely on Technology and Technology Improvements in Our Business Operations – We rely on information technology in all aspects of our business. If we do not have sufficient capital to acquire new technology or if we are unable to develop or implement new technology such as PTC or the latest version of our transportation control systems, we may suffer a competitive disadvantage within the rail industry and with companies providing other modes of transportation service, which could have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, if a cyber attack or other event causes significant disruption or failure of one or more of our information technology systems, including computer hardware, software, and communications equipment, we could suffer a significant service interruption, safety failure, security breach, or other operational difficulties, which could have a material adverse impact on our results of operations, financial condition, and liquidity.

We May Be Subject to Various Claims and Lawsuits That Could Result in Significant Expenditures – As a railroad with operations in densely populated urban areas and other cities and a vast rail network, we are exposed to the potential for various claims and litigation related to labor and employment, personal injury, property damage, environmental liability, and other matters. Any material changes to litigation trends or a catastrophic rail accident or series of accidents involving any or all of property damage, personal injury, and environmental liability that exceed our insurance coverage for such risks could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Subject to Significant Environmental Laws and Regulations – Due to the nature of the railroad business, our operations are subject to extensive federal, state, and local environmental laws and regulations concerning, among other things, emissions to the air; discharges to waters; handling, storage, transportation, disposal of waste and other materials; and hazardous material or petroleum releases. We generate and transport hazardous and non-hazardous waste in our operations, and we did so in our former operations. Environmental liability can extend to previously owned or operated properties, leased properties, and properties owned by third parties, as well as to properties we currently own. Environmental liabilities have arisen and may also arise from claims asserted by adjacent landowners or other third parties in toxic tort litigation. We have been and may be subject to allegations or findings that we have violated, or are strictly liable under, these laws or regulations. We currently have certain obligations at existing sites for investigation, remediation and monitoring, and we likely will have obligations at other sites in the future. Liabilities for these obligations affect our estimate based on our experience and, as necessary, the advice and assistance of our consultants. However, actual costs may vary from our estimates due to any or all of several factors, including changes to environmental laws or interpretations of such laws, technological changes affecting investigations and remediation, the participation and financial viability of other parties responsible for any such liability and the corrective action or change to corrective actions required to remediate any existing or future sites. We could incur significant costs as a result of any of the foregoing, and we may be required to incur significant expenses to investigate and remediate known, unknown, or future environmental contamination, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Affected by Climate Change and Market or Regulatory Responses to Climate Change – Climate change, including the impact of global warming, could have a material adverse effect on our results of operations, financial condition, and liquidity. Restrictions, caps, taxes, or other controls on emissions of greenhouse gasses, including diesel exhaust, could significantly increase our operating costs. Restrictions on emissions could also affect our customers that (a) use commodities that we carry to produce energy, (b) use significant amounts of energy in producing or delivering the commodities we carry, or (c) manufacture or produce goods that consume significant amounts of energy or burn fossil fuels, including chemical producers, farmers and food producers, and automakers and other manufacturers. Significant cost increases, government regulation, or changes of consumer preferences for goods or services relating to alternative sources of energy or emissions reductions could materially affect the markets for the commodities we carry, which in turn could have a material adverse effect on our results of operations, financial condition, and liquidity. Government incentives encouraging the use of alternative sources of energy could also affect certain of our customers and the markets for certain of the commodities we carry in an unpredictable manner that could alter our traffic patterns, including, for example, increasing royalties charged to producers of PRB coal by the U.S. Department of Interior and the impacts of ethanol incentives on farming and ethanol producers. Finally, we could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change. Any of these factors, individually or in operation with one or more of the other factors, or other unforeseen impacts of climate change could reduce the amount of traffic we handle and have a material adverse effect on our results of operations, financial condition, and liquidity.

Severe Weather Could Result in Significant Business Interruptions and Expenditures – As a railroad with a vast network, we are exposed to severe weather conditions and other natural phenomena, including earthquakes, hurricanes, fires, floods, mudslides or landslides, extreme temperatures, and significant precipitation. Line outages and other interruptions caused by these conditions can adversely affect our entire rail network and can adversely affect revenue, costs, and liabilities, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

Strikes or Work Stoppages Could Adversely Affect Our Operations – The U.S. Class I railroads are party to collective bargaining agreements with various labor unions. The majority of our employees belong to labor unions and are subject to these agreements. Disputes with regard to the terms of these agreements or our potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns, or lockouts, which could cause a significant disruption of our operations and have a material adverse effect on our results of operations, financial condition, and liquidity. Additionally, future national labor agreements, or renegotiation of labor agreements or provisions of labor agreements, could compromise our service reliability or significantly increase our costs for health care, wages, and other benefits, which could have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts at loading/unloading facilities, ports or other transport access points could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity. Labor disputes, work stoppages, slowdowns or lockouts by employees of our customers or our suppliers could compromise our service reliability and have a material adverse impact on our results of operations, financial condition, and liquidity.

The Availability of Qualified Personnel Could Adversely Affect Our Operations – Changes in demographics, training requirements, and the availability of qualified personnel could negatively affect our ability to meet demand for rail service. Unpredictable increases in demand for rail services and a lack of network fluidity may exacerbate such risks, which could have a negative impact on our operational efficiency and otherwise have a material adverse effect on our results of operations, financial condition, and liquidity.

We May Be Affected By Fluctuating Fuel Prices – Fuel costs constitute a significant portion of our transportation expenses. Diesel fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on our operating results. Although we currently are able to recover a significant amount of our fuel expenses from our customers through revenue from fuel surcharges, we cannot be certain that we will always be able to mitigate rising or elevated fuel costs through our fuel surcharges. Additionally, future market conditions or legislative or regulatory activities could adversely affect our ability to apply fuel surcharges or adequately recover increased fuel costs through fuel surcharges. As fuel prices fluctuate, our fuel surcharge programs trail such fluctuations in fuel price by approximately two months, and may be a significant source of quarter-over-quarter and year-over-year volatility, particularly in periods of rapidly changing prices. International, political, and economic factors, events and conditions affect the volatility of fuel prices and supplies. Weather can also affect fuel supplies and limit domestic refining capacity. A severe shortage of, or disruption to, domestic fuel supplies could have a material adverse effect on our results of operations, financial condition, and liquidity. Alternatively, lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products we transport. However, lower fuel prices could have a negative impact on other commodities we transport, such as coal and domestic drilling-related shipments, which could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Utilize Capital Markets – Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, we rely on the capital markets to provide some of our capital requirements. We utilize long-term debt instruments, bank financing and commercial paper from time-to-time, and we pledge certain of our receivables. Significant instability or disruptions of the capital markets, including the credit markets, or deterioration of our financial condition due to internal or external factors could restrict or prohibit our access to, and significantly increase the cost of, commercial paper and other financing sources, including bank credit facilities and the issuance of long-term debt, including corporate bonds. A significant deterioration of our financial condition could result in a reduction of our credit rating to below investment grade, which could restrict, or at certain credit levels below investment grade may prohibit us, from utilizing our current receivables securitization facility. This may also limit our access to external sources of capital and significantly increase the costs of short and long-term debt financing.

A Significant Portion of Our Revenue Involves Transportation of Commodities to and from International Markets – Although revenues from our operations are attributable to transportation services provided in the U.S., a significant portion of our revenues involves the transportation of commodities to and from international markets, including Mexico and Southeast Asia, by various carriers and, at times, various modes of transportation. Significant and sustained interruptions of trade with Mexico or countries in Southeast Asia, including China, could adversely affect customers and other entities that, directly or indirectly, purchase or rely on rail transportation services in the U.S. as part of their operations, and any such interruptions could have a material adverse effect on our results of operations, financial condition and liquidity. Any one or more of the following could cause a significant and sustained interruption of trade with Mexico or countries in Southeast Asia: (a) a deterioration of security for international trade and businesses; (b) the adverse impact of new laws, rules and regulations or the interpretation of laws, rules and regulations by government entities, courts or regulatory bodies, including modifications to the North American Free Trade Agreement (NAFTA) and actions of taxing authorities that affect our customers doing business in foreign countries; (c) any significant adverse economic developments, such as extended periods of high inflation, material disruptions in the banking sector or in the capital markets of these foreign countries, and significant changes in the valuation of the currencies of these foreign countries that could materially affect the cost or value of imports or exports; (d) shifts in patterns of international trade that adversely affect import and export markets; and (e) a material reduction in foreign direct investment in these countries.

We Are Subject to Legislative, Regulatory, and Legal Developments Involving Taxes – Taxes are a significant part of our expenses. We are subject to U.S. federal, state, and foreign income, payroll, property, sales and use, fuel, and other types of taxes. Changes in tax rates, such as those included in the recently enacted U.S. Tax Cuts and Jobs Act, enactment of new tax laws, revisions of tax regulations, and claims or litigation with taxing authorities could result in a material effect to our results of operations, financial condition, and liquidity. Higher tax rates could have a material adverse effect on our results of operations, financial condition, and liquidity.

We Are Dependent on Certain Key Suppliers of Locomotives and Rail – Due to the capital intensive nature and sophistication of locomotive equipment, parts and maintenance, potential new suppliers face high barriers to entry. Therefore, if one of the domestic suppliers of high horsepower locomotives discontinues manufacturing locomotives, supplying parts or providing maintenance for any reason, including bankruptcy or insolvency, we could experience significant cost increases and reduced availability of the locomotives that are necessary for our operations. Additionally, for a high percentage of our rail purchases, we utilize two steel producers (one domestic and one international) that meet our specifications. Rail is critical to our operations for rail replacement programs, maintenance, and for adding additional network capacity, new rail and storage yards, and expansions of existing facilities. This industry similarly has high barriers to entry, and if one of these suppliers discontinues operations for any reason, including bankruptcy or insolvency, we could experience both significant cost increases for rail purchases and difficulty obtaining sufficient rail for maintenance and other projects.

We May Be Affected by Acts of Terrorism, War, or Risk of War – Our rail lines, facilities, and equipment, including rail cars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Terrorist attacks, or other similar events, any government response thereto, and war or risk of war may adversely affect our results of operations, financial condition, and liquidity. In addition, insurance premiums for some or all of our current coverages could increase dramatically, or certain coverages may not be available to us in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We employ a variety of assets in the management and operation of our rail business. Our rail network covers 23 states in the western two-thirds of the U.S.

Picture 5

TRACK

Our rail network includes 32,122 route miles. We own 26,042 miles and operate on the remainder pursuant to trackage rights or leases. The following table describes track miles at December 31, 2017, and 2016:

	2017	*2016*
Route	**32,122**	32,070
Other main line	**7,107**	7,070
Passing lines and turnouts	**3,255**	3,245
Switching and classification yard lines	**9,199**	9,115
Total miles	**51,683**	51,500

HEADQUARTERS BUILDING

We own our headquarters building in Omaha, Nebraska. The facility has 1.2 million square feet of space that can accommodate approximately 4,000 employees.

HARRIMAN DISPATCHING CENTER

The Harriman Dispatching Center (HDC), located in Omaha, Nebraska, is our primary dispatching facility. It is linked to regional dispatching and locomotive management facilities at various locations along our network. HDC employees coordinate moves of locomotives and trains, manage traffic and train crews on our network, and coordinate interchanges with other railroads. Approximately 900 employees currently work on-site in the facility. In the event of a disruption of operations at HDC due to a cyber attack, flooding or severe weather or other event, we maintain the capability to conduct critical operations at back-up facilities in different locations.

RAIL FACILITIES

In addition to our track structure, we operate numerous facilities, including terminals for intermodal and other freight; rail yards for building trains (classification yards), switching, storage-in-transit (the temporary storage of customer goods in rail cars prior to shipment) and other activities; offices to administer and manage our operations; dispatching centers to direct traffic on our rail network; crew quarters to house train crews along our network; and shops and other facilities for fueling, maintenance, and repair of locomotives and repair and maintenance of rail cars and other equipment. The following table includes the major yards and terminals on our system:

Major Classification Yards	*Major Intermodal Terminals*
North Platte, Nebraska	Joliet (Global 4), Illinois
North Little Rock, Arkansas	East Los Angeles, California
Englewood (Houston), Texas	ICTF (Los Angeles), California
Fort Worth, Texas	Global I (Chicago), Illinois
Livonia, Louisiana	DIT (Dallas), Texas
Proviso (Chicago), Illinois	Mesquite, Texas
Roseville, California	City of Industry, California
West Colton, California	Global II (Chicago), Illinois
Pine Bluff, Arkansas	Marion (Memphis), Tennessee
Neff (Kansas City), Missouri	Lathrop, California

RAIL EQUIPMENT

Our equipment includes owned and leased locomotives and rail cars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices, and facilities; and vehicles for maintenance, transportation of crews, and other activities. As of December 31, 2017, we owned or leased the following units of equipment:

Locomotives	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Multiple purpose	6,392	1,852	8,244	20.0
Switching	213	12	225	36.9
Other	47	57	104	38.5
Total locomotives	6,652	1,921	8,573	N/A

Freight cars	*Owned*	*Leased*	*Total*	*Average Age (yrs.)*
Covered hoppers	13,804	12,629	26,433	20.4
Open hoppers	6,897	2,427	9,324	30.9
Gondolas	5,798	2,772	8,570	26.7
Boxcars	2,957	6,780	9,737	36.1
Refrigerated cars	2,600	3,486	6,086	25.4
Flat cars	2,533	1,147	3,680	32.4
Other	8	353	361	29.9
Total freight cars	34,597	29,594	64,191	N/A

Highway revenue equipment	Owned	Leased	Total	Average Age (yrs.)
Containers	38,655	15,327	53,982	8.8
Chassis	23,711	21,771	45,482	10.9
Total highway revenue equipment	62,366	37,098	99,464	N/A

CAPITAL EXPENDITURES

Our rail network requires significant annual capital investments for replacement, improvement, and expansion. These investments enhance safety, support the transportation needs of our customers, and improve our operational efficiency. Additionally, we add new locomotives and freight cars to our fleet to replace older, less efficient equipment, to support growth and customer demand, and to reduce our impact on the environment through the acquisition of more fuel-efficient and low-emission locomotives.

2017 Capital Program – During 2017, our capital program totaled approximately $3.1 billion. (See the cash capital expenditures table in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.)

2018 Capital Plan – In 2018, we expect our capital plan to be approximately $3.3 billion. The plan includes expenditures to renew and improve our existing infrastructure as well as new capacity investments, including initial construction work on a new classification yard in our Southern Region. In addition, expenditures will be made for PTC, locomotives, intermodal containers and chassis, and freight cars. We may revise our 2018 capital plan if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See discussion of our 2018 capital plan in Management's Discussion and Analysis of Financial Condition and Results of Operations – 2018 Outlook, Item 7.)

OTHER

Equipment Encumbrances – Equipment with a carrying value of approximately $2.0 billion and $2.3 billion at December 31, 2017, and 2016, respectively served as collateral for capital leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

As a result of the merger of Missouri Pacific Railroad Company (MPRR) with and into UPRR on January 1, 1997, and pursuant to the underlying indentures for the MPRR mortgage bonds, UPRR must maintain the same value of assets after the merger in order to comply with the security requirements of the mortgage bonds. As of the merger date, the value of the MPRR assets that secured the mortgage bonds was approximately $6.0 billion. In accordance with the terms of the indentures, this collateral value must be maintained during the entire term of the mortgage bonds irrespective of the outstanding balance of such bonds.

Environmental Matters – Certain of our properties are subject to federal, state, and local laws and regulations governing the protection of the environment. (See discussion of environmental issues in Business – Governmental and Environmental Regulation, Item 1, Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7, and Note 18 of the Consolidated Financial Statements.)

Item 3. Legal Proceedings

From time to time, we are involved in legal proceedings, claims, and litigation that occur in connection with our business. We routinely assess our liabilities and contingencies in connection with these matters based upon the latest available information and, when necessary, we seek input from our third-party advisors when making these assessments. Consistent with SEC rules and requirements, we describe below material pending legal proceedings (other than ordinary routine litigation incidental to our business), material proceedings known to be contemplated by governmental authorities, other proceedings arising under federal, state, or local environmental laws and regulations (including governmental proceedings involving potential fines, penalties, or other monetary sanctions in excess of $100,000), and such other pending matters that we may determine to be appropriate.

ENVIRONMENTAL MATTERS

We receive notices from the EPA and state environmental agencies alleging that we are or may be liable under federal or state environmental laws for remediation costs at various sites throughout the U.S., including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs.

On May 2, 2015, a UPRR train en route from Chicago, IL. to St. Louis, MO. experienced an accidental release of diesel fuel in the vicinity of Sidney, IL. It is believed that the release was caused by a puncture to a fuel tank under one or more of the locomotives attached to the train. The impacted fuel tank(s) released the majority of their contents onto the ground, approximately 400 feet from an unnamed creek. Some of the fuel migrated into that creek, which discharges to the Salt Fork River. We immediately notified federal, state and local authorities and dispatched our own emergency response resources to the scene. On May 29, 2015, we entered into an agreed-upon interim order to perform a comprehensive site investigation and remedial measures at the release site. On March 13, 2017, the State of Illinois issued a demand for $125,000 in civil penalties as part of the ongoing enforcement action. We are currently evaluating the State's demand.

Information concerning environmental claims and contingencies and estimated remediation costs is set forth in Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies – Environmental, Item 7. See also Note 18 of the Consolidated Financial Statements.

OTHER MATTERS

Antitrust Litigation – As we reported in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2007, 20 rail shippers (many of whom are represented by the same law firms) filed virtually identical antitrust lawsuits in various federal district courts against us and four other Class I railroads in the U.S. Currently, UPRR and three other Class I railroads are the named defendants in the lawsuit. The original plaintiff filed the first of these claims in the U.S. District Court in New Jersey on May 14, 2007. The number of complaints reached a total of 30. These suits allege that the named railroads engaged in price-fixing by establishing common fuel surcharges for certain rail traffic.

On June 21, 2012, Judge Friedman issued a decision that certified a class of plaintiffs with eight named plaintiff representatives. The decision included in the class all shippers that paid a rate-based fuel surcharge to any one of the defendant railroads for rate-unregulated rail transportation from July 1, 2003, through December 31, 2008. On July 5, 2012, the defendant railroads filed a petition with the U.S. Court of Appeals for the District of Columbia requesting that the court review the class certification ruling. On August 9, 2013, the Circuit Court vacated the class certification decision and remanded the case to the district court to reconsider the class certification decision in light of a recent Supreme Court case and incomplete consideration of errors in the expert report of the plaintiffs. After reviewing an intervening case, supplemental expert materials and related briefing from the parties, Judge Friedman scheduled and completed a new class certification hearing during the week of September 26, 2016. On October 10, 2017, the parties received a ruling from Judge Friedman denying class certification. Plaintiffs have sought appellate review of that ruling and on December 20, 2017, were granted the right of an interlocutory appeal by the U.S. Court of Appeals for the District of Columbia Circuit.

As we reported in our Current Report on Form 8-K, filed on June 10, 2011, the Railroad received a complaint filed in the U.S. District Court for the District of Columbia on June 7, 2011, by Oxbow Carbon & Minerals LLC and related entities (Oxbow). The parties are currently conducting discovery in this matter. For additional information on

Oxbow, please refer to Item 3. Legal Proceedings, under Other Matters, Antitrust Litigation in our Annual Report on Form 10-K for the year ended December 31, 2016.

We continue to deny the allegations that our fuel surcharge programs violate the antitrust laws or any other laws. We believe that these lawsuits are without merit, and we will vigorously defend our actions. Therefore, we currently believe that these matters will not have a material adverse effect on any of our results of operations, financial condition, and liquidity.

Item 4. Mine Safety Disclosures

Not applicable.

Executive Officers of the Registrant and Principal Executive Officers of Subsidiaries

The Board of Directors typically elects and designates our executive officers on an annual basis at the board meeting held in conjunction with the Annual Meeting of Shareholders, and they hold office until their successors are elected. Executive officers also may be elected and designated throughout the year, as the Board of Directors considers appropriate. There are no family relationships among the officers, nor is there 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 current as of February 9, 2018, relating to the executive officers.

Name	Position	Age	Business Experience During Past Five Years
Lance M. Fritz	Chairman, President and Chief Executive Officer of UPC and the Railroad	55	[1]
Robert M. Knight, Jr.	Executive Vice President and Chief Financial Officer of UPC and the Railroad	60	Current Position
Rhonda S. Ferguson	Executive Vice President, Chief Legal Officer and Corporate Secretary of UPC and the Railroad	48	[2]
Todd M. Rynaski	Vice President and Controller of UPC and Chief Accounting Officer and Controller of the Railroad	47	[3]
Cameron A. Scott	Executive Vice President and Chief Operating Officer of the Railroad	55	[4]
Elizabeth F. Whited	Executive Vice President and Chief Marketing Officer of the Railroad	52	[5]

[1] *On July 30, 2015, Mr. Fritz was named Chairman of the Board of UPC and the Railroad effective October 1, 2015. Mr. Fritz was elected President and Chief Executive Officer of UPC and the Railroad effective February 5, 2015. Previously, Mr. Fritz was President and Chief Operating Officer of the Railroad effective February 6, 2014, Executive Vice President – Operations of the Railroad effective September 1, 2010, and Vice President – Operations of the Railroad effective January 1, 2010.*

[2] *Ms. Ferguson was elected Corporate Secretary of UPC and the Railroad effective December 1, 2017, and Executive Vice President and Chief Legal Officer of UPC and the Railroad effective July 11, 2016. She previously was Vice President, Corporate Secretary and Chief Ethics Officer of FirstEnergy Corp. since 2007.*

[3] *Mr. Rynaski was elected Vice President and Controller of UPC and Chief Accounting Officer and Controller of the Railroad effective September 1, 2015. He previously was Assistant Vice President – Accounting of the Railroad effective January 1, 2014, and Assistant Vice President – Financial Reporting and Analysis effective April 1, 2011.*

[4] *Mr. Scott was elected to his current position effective February 6, 2014. He previously was Vice President Network Planning and Operations effective June 30, 2012.*

[5] *Ms. Whited was elected Executive Vice President and Chief Marketing Officer effective December 1, 2016. She previously was Vice President and General Manager – Chemicals effective October 1, 2012.*

PART II

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

Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "UNP". The following table presents the dividends declared and the high and low prices of our common stock for each of the indicated quarters.

2017 - Dollars Per Share	*Q1*	*Q2*	*Q3*	*Q4*
Dividends	$ 0.605	$ 0.605	$ 0.605	$ 0.665
Common stock price:				
High	111.38	115.15	116.93	136.32
Low	101.20	104.12	101.06	108.71

2016 - Dollars Per Share	*Q1*	*Q2*	*Q3*	*Q4*
Dividends	$ 0.55	$ 0.55	$ 0.55	$ 0.605
Common stock price:				
High	85.30	90.14	98.00	106.62
Low	67.06	77.29	86.01	87.06

At February 2, 2018, there were 779,305,276 shares of common stock outstanding and 30,653 common shareholders of record. On that date, the closing price of the common stock on the NYSE was $129.36. We paid dividends to our common shareholders during each of the past 118 years. We declared dividends totaling $1,982 million in 2017 and $1,879 million in 2016. On February 8, 2018, we increased the quarterly dividend to $0.73 per share, payable on March 30, 2018, to shareholders of record on February 28, 2018. We are subject to certain restrictions regarding retained earnings with respect to the payment of cash dividends to our shareholders. The amount of retained earnings available for dividends increased to $16.4 billion at December 31, 2017, from $12.4 billion at December 31, 2016. (See discussion of this restriction in Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, Item 7.) We do not believe the restriction on retained earnings will affect our ability to pay dividends, and we currently expect to pay dividends in 2018.

Comparison Over One- and Three-Year Periods – The following table presents the cumulative total shareholder returns, assuming reinvestment of dividends, over one- and three-year periods for the Corporation (UNP), a peer group index (comprised of CSX Corporation and Norfolk Southern Corporation), the Dow Jones Transportation Index (DJ Trans), and the Standard & Poor's 500 Stock Index (S&P 500).

Period	*UNP*	*Peer Group*	*DJ Trans*	*S&P 500*
1 Year (2017)	32.2 %	46.5 %	19.0 %	21.8 %
3 Year (2015 - 2017)	20.7	52.4	21.2	38.3

Five-Year Performance Comparison – The following graph provides an indicator of cumulative total shareholder returns for the Corporation as compared to the peer group index (described above), the DJ Trans, and the S&P 500. The graph assumes that $100 was invested in the common stock of Union Pacific Corporation and each index on December 31, 2012 and that all dividends were reinvested. The information below is historical in nature and is not necessarily indicative of future performance.

Picture 1

Purchases of Equity Securities – During 2017, we repurchased 37,122,405 shares of our common stock at an average price of $110.50. The following table presents common stock repurchases during each month for the fourth quarter of 2017:

Period	*Total Number of Shares Purchased [a]*	*Average Price Paid Per Share*	*Total Number of Shares Purchased as Part of a Publicly Announced Plan or Program [b]*	*Maximum Number of Shares Remaining Under the Plan or Program [b]*
Oct. 1 through Oct. 31	3,831,636	$ 113.61	3,800,000	89,078,662
Nov. 1 through Nov. 30	3,005,225	117.07	2,937,410	86,141,252
Dec. 1 through Dec. 31	2,718,319	130.76	2,494,100	83,647,152
Total	9,555,180	$ 119.58	9,231,510	N/A

[a] *Total number of shares purchased during the quarter includes approximately 323,670 shares delivered or attested to UPC by employees to pay stock option exercise prices, satisfy excess tax withholding obligations for stock option exercises or vesting of retention units, and pay withholding obligations for vesting of retention shares.*

[b] *Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020. These repurchases may be made on the open market or through other transactions. Our management has sole discretion with respect to determining the timing and amount of these transactions.*

Item 6. Selected Financial Data

The following table presents as of, and for the years ended, December 31, our selected financial data for each of the last five years. The selected financial data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations, Item 7, and with the Financial Statements and Supplementary Data, Item 8. The information below is historical in nature and is not necessarily indicative of future financial condition or results of operations.

Millions, Except per Share Amounts, Carloads, Employee Statistics, and Ratios	***2017[a]***	*2016*	*2015*	*2014*	*2013*
For the Year Ended December 31					
Operating revenues [b]	**$21,240**	$19,941	$21,813	$23,988	$21,963
Operating income	**8,061**	7,272	8,052	8,753	7,446
Net income	**10,712**	4,233	4,772	5,180	4,388
Earnings per share - basic [c]	**13.42**	5.09	5.51	5.77	4.74
Earnings per share - diluted [c]	**13.36**	5.07	5.49	5.75	4.71
Dividends declared per share [c]	**2.48**	2.255	2.20	1.91	1.48
Cash provided by operating activities	**7,230**	7,525	7,344	7,385	6,823
Cash used in investing activities	**(3,086)**	(3,393)	(4,476)	(4,249)	(3,405)
Cash used in financing activities	**(4,146)**	(4,246)	(3,063)	(2,982)	(3,049)
Cash used for common share repurchases	**(4,013)**	(3,105)	(3,465)	(3,225)	(2,218)
At December 31					
Total assets	**$57,806**	$55,718	$54,600	$52,372	$49,410
Long-term obligations [d]	**29,011**	32,146	30,692	27,419	24,395
Debt due after one year	**16,144**	14,249	13,607	10,952	8,820
Common shareholders' equity	**24,856**	19,932	20,702	21,189	21,225
Additional Data					
Freight revenues [b]	**$19,837**	$18,601	$20,397	$22,560	$20,684
Revenue carloads (units) (000)	**8,588**	8,442	9,062	9,625	9,022
Operating ratio (%) [e]	**62.0**	63.5	63.1	63.5	66.1
Average employees (000)	**42.0**	42.9	47.5	47.2	46.4
Financial Ratios (%)					
Debt to capital [f]	**40.5**	43.0	40.7	35.0	31.0
Return on average common shareholders' equity [g]	**47.8**	20.8	22.8	24.4	21.4

[a] *2017 includes a $5.9 billion non-cash reduction to income tax expense and $212 million non-cash reduction to operating expenses related to the Tax Cuts and Jobs Act enacted on December 22, 2017.*

[b] *Includes fuel surcharge revenue of $966 million, $560 million, $1.3 billion, $2.8 billion, and $2.6 billion, for 2017, 2016, 2015, 2014, and 2013, respectively, which partially offsets increased operating expenses for fuel. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Operating Revenues, Item 7.)*

[c] *Earnings per share and dividends declared per share are retroactively adjusted to reflect the June 6, 2014 stock split.*

[d] *Long-term obligations is determined as follows: total liabilities less current liabilities.*

[e] *Operating ratio is defined as operating expenses divided by operating revenues.*

[f] *Debt to capital is determined as follows: total debt divided by total debt plus common shareholders' equity.*

[g] *Return on average common shareholders' equity is determined as follows: Net income divided by average common shareholders' equity.*

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable notes to the Financial Statements and Supplementary Data, Item 8, and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Policies and Cautionary Information at the end of this Item 7.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable business segment. Although revenue is analyzed by commodity, we analyze the net financial results of the Railroad as one segment due to the integrated nature of the rail network.

EXECUTIVE SUMMARY

2017 Results

- **Safety** – During 2017, we continued our focus on safety to reduce risk and eliminate incidents for our employees, our customers and the public. We finished 2017 with a 3% improvement in our reportable derailment incident rate per million train miles compared to 2016. Although reportable personal injury incidents per 200,000 employee-hours increased 5% from last year's record low, it is our second lowest year and a 9% decrease from 2015. Despite our efforts in 2017, our crossing incidents rate increased 5% from 2016. Overall, our 2017 safety results reflect our employees' dedication to our safety initiatives and our efforts to further engage the workforce through programs such as Courage to Care, Total Safety Culture, and UP Way (our continuous improvement culture).

- **Network Operations** – Our average train speed, as reported to the AAR, decreased 5% compared to 2016, and our average terminal dwell time increased 8% from 2016. Disruptions across our network, including the impact of Hurricane Harvey, negatively impacted network fluidity. Continued implementation and testing of Positive Train Control across a growing number of routes in our network also negatively impacted overall average train speed and terminal dwell. Network operational challenges in the latter part of the year also negatively impacted terminal dwell.

- **Tax Reform** – The Tax Cuts and Jobs Act (the "Tax Act") was enacted on December 22, 2017. The Tax Act reduced the federal income tax rate from 35% to 21% effective January 1, 2018. As a result, we remeasured our deferred tax assets and liabilities which resulted in a $5.9 billion non-cash reduction in our income tax expense in 2017. In addition, we recognized a $212 million non-cash reduction to operating expense related to income tax adjustments recognized at certain equity-method affiliates. See Note 8 of the Consolidated Financial Statements for additional information.

For comparability purposes, the following table reconciles our full year 2017 reported results under accounting principles generally accepted in the U.S. (GAAP) to our 2017 adjusted results (non-GAAP) for the tax related items described above. We believe the adjusted results provide relevant information to our investors as they more accurately reflect on-going financial performance. In addition, these measures should be considered in addition to, and not a substitute for operating income, income taxes, net income, diluted EPS, operating ratio, and effective tax rate.

Millions, Except Per Share Amounts and Percentages	*Operating Income*	*Income Taxes*	*Net Income*	*Diluted EPS*	*Operating Ratio*	*Effective*

						Tax Rate
2017 Reported results (GAAP)	$ 8,061	$ (3,080)	$ 10,712	$ 13.36	62.0 %	(40.4)%
Factors Affecting Comparability:						
Adjustments for Tax Cuts and Jobs Act						
Equity-method affiliates	(212)	(73)	(139)	(0.17)	1.0 pts	-
Deferred taxes	-	5,935	(5,935)	(7.40)	-	77.9
2017 Adjusted results (non-GAAP)	$ 7,849	$ 2,782	$ 4,638	$ 5.79	63.0 %	37.5 %
2016 Reported results (GAAP)	$ 7,272	$ 2,533	$ 4,233	$ 5.07	63.5 %	37.4 %

- **2017 Adjusted Results Non-GAAP** – In 2017, we generated adjusted operating income of more than $7.8 billion, an 8% increase compared to 2016. Volume growth of 2%, combined with core pricing and productivity gains, generated solid financial performance improvement and more than offset $86 million of operating expense associated with our workforce reduction plan implemented in the third quarter of 2017. Our 2017 adjusted operating ratio was an all-time record 63.0%, improving 0.5 points from 2016.

Adjusted net income of $4.6 billion translated into adjusted earnings of $5.79 per diluted share, a best-ever performance.

- **Freight Revenues** – Our freight revenues increased 7% year-over-year to $19.8 billion driven by volume growth of 2%, higher fuel surcharge revenue, and core pricing gains. Growth in frac sand, coal, and intermodal shipments more than offset declines in grain, crude oil, finished vehicles, and rock shipments.

- **Fuel Prices** – Our average price of diesel fuel in 2017 was $1.81 per gallon, an increase of 22% from 2016, as both crude oil and conversion spreads between crude oil and diesel increased in 2017. The higher price resulted in increased operating expenses of $334 million (excluding any impact from year-over-year volume growth). Gross-ton miles increased 5%, which also drove higher fuel expense. Our fuel consumption rate, computed as gallons of fuel consumed divided by gross ton-miles in thousands, improved 2%.

- **Free Cash Flow** – Cash generated by operating activities totaled $7.2 billion, yielding free cash flow of $2.2 billion after reductions of $3.1 billion for cash used in investing activities and $2 billion in dividends, which included a 10% increase in our quarterly dividend per share from $0.605 to $0.665 declared and paid in the fourth quarter of 2017. Free cash flow is defined as cash provided by operating activities less cash used in investing activities and dividends paid.

Free cash flow is not considered a financial measure under GAAP by SEC Regulation G and Item 10 of SEC Regulation S-K and may not be defined and calculated by other companies in the same manner. We believe free cash flow is important to management and investors in evaluating our financial performance and measures our ability to generate cash without additional external financings. Free cash flow should be considered in addition to, rather than as a substitute for, cash provided by operating activities. The following table reconciles cash provided by operating activities (GAAP measure) to free cash flow (non-GAAP measure):

Millions	***2017***	*2016*	*2015*
Cash provided by operating activities	**$ 7,230**	$ 7,525	$ 7,344
Cash used in investing activities	**(3,086)**	(3,393)	(4,476)
Dividends paid	**(1,982)**	(1,879)	(2,344)
Free cash flow	**$ 2,162**	$ 2,253	$ 524

2018 Outlook

- **Safety** – Operating a safe railroad benefits all our constituents: our employees, customers, shareholders and the communities we serve. We will continue using a multi-faceted approach to safety, utilizing technology, risk assessment, training and employee engagement, quality control, and targeted capital investments. We will continue using and expanding the deployment of Total Safety Culture and Courage to Care throughout our operations, which allows us to identify and implement best practices for employee and operational safety. We will continue our efforts to increase detection of rail defects; improve or close crossings; and educate the public and law enforcement agencies about crossing safety through a combination of our own programs (including risk assessment strategies), industry programs and local community activities across our network.

Network Operations – In 2018, we will continue to align resources with customer demand, maintain an efficient network, and ensure surge capability of our assets.

Fuel Prices – Fuel price projections for crude oil and natural gas continue to fluctuate in the current environment. We again could see volatile fuel prices during the year, as they are sensitive to global and U.S. domestic demand, refining capacity, geopolitical events, weather conditions and other factors. As prices fluctuate, there will be a timing impact on earnings, as our fuel surcharge programs trail increases or decreases in fuel price by approximately two months.

Lower fuel prices could have a positive impact on the economy by increasing consumer discretionary spending that potentially could increase demand for various consumer products that we transport. Alternatively, lower fuel prices could likely have a negative impact on other commodities such as coal and domestic drilling-related shipments.

- **Capital Plan** – In 2018, we expect our capital plan to be approximately $3.3 billion, up around 5% compared to 2017. The plan includes expenditures to renew and improve our existing infrastructure as well as new capacity investments, including initial construction work on a new classification yard in our Southern Region. In addition, expenditures will be made for PTC, locomotives, intermodal containers and chassis, and freight cars. We expect to take delivery of approximately 60 new locomotives in 2018, which will complete our multi-year purchase commitments. The capital plan may be revised if business conditions warrant or if new laws or regulations affect our ability to generate sufficient returns on these investments. (See further discussion in this Item 7 under Liquidity and Capital Resources – Capital Plan.)

- **Financial Expectations** – Economic conditions in many of our market sectors continue to drive uncertainty with respect to our volume levels. We expect volume to grow in the low single digit range in 2018 compared to 2017, but it will depend on the overall economy and market conditions. One of the more significant uncertainties is the outlook for energy markets, which will bring both challenges and opportunities. In the current environment, we expect continued margin improvement driven by continued pricing opportunities, ongoing productivity initiatives, and the ability to leverage our resources and strengthen our franchise. Over the longer term, we expect the overall U.S. economy to continue to improve at a modest pace, with some markets outperforming others.

- **Tax Reform** – The Tax Act was enacted on December 22, 2017. The Tax Act reduced the federal income tax rate from 35% to 21% effective January 1, 2018. Due to the tax rate change, we expect to generate additional cash from operations in 2018 of approximately $1 billion, assuming normal business conditions prevail. We will continue to evaluate the best use of that cash, which will include pursuing capital projects with adequate returns, and returning cash to shareholders through share repurchases and dividends.

RESULTS OF OPERATIONS

Operating Revenues

Millions	***2017***	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Freight revenues	**$19,837**	$18,601	$20,397	**7 %**	(9)%
Other revenues	**1,403**	1,340	1,416	**5 %**	(5)%
Total	**$21,240**	$19,941	$21,813	**7 %**	(9)%

We generate freight revenues by transporting freight or other materials from our six commodity groups. Freight revenues vary with volume (carloads) and average revenue per car (ARC). Changes in price, traffic mix and fuel surcharges drive ARC. We provide some of our customers with contractual incentives for meeting or exceeding specified cumulative volumes or shipping to and from specific locations, which we record as reductions to freight revenues based on the actual or projected future shipments. We recognize freight revenues as shipments move from origin to destination. We allocate freight revenues between reporting periods based on the relative transit time in each reporting period and recognize expenses as we incur them.

Other revenues include revenues earned by our subsidiaries, revenues from commuter rail operations that we manage, accessorial revenues, which we earn when customers retain equipment owned or controlled by us or when we perform additional services such as switching or storage, and miscellaneous contract revenue. We recognize other revenues as we perform services or meet contractual obligations.

Freight revenues increased 7% year-over-year to $19.8 billion driven by volume growth of 2%, higher fuel surcharge revenue, and core pricing gains. Growth in frac sand, coal, and intermodal shipments more than offset declines in grain, crude oil, finished vehicles, and rock shipments.

Freight revenues decreased 9% in 2016 compared to 2015 due to a 7% decline in carloadings, and lower fuel surcharge revenue, partially offset by core pricing gains. Volume declines in coal, intermodal, frac sand, crude oil, finished vehicles, and metals shipments more than offset volume growth in grain, automotive parts, and industrial chemicals shipments.

Our fuel surcharge programs generated freight revenues of $966 million, $560 million, and $1.3 billion in 2017, 2016, and 2015, respectively. Fuel surcharge revenue in 2017 increased $406 million as a result of a 22% increase in fuel price and 2% growth in carloadings. Fuel surcharge revenue in 2016 decreased $740 million as a result of a 20% decrease in fuel price, a 7% reduction in carloadings, and the lag impact on fuel surcharge (it can generally take up to two months for changing fuel prices to affect fuel surcharge recoveries).

In 2017, other revenue increased from 2016 due to higher revenues at our subsidiaries, primarily those that broker intermodal, transload, and refrigerated warehousing logistics services.

In 2016, other revenue decreased from 2015 due to lower revenues at our subsidiaries, primarily those that broker intermodal and transload services, and lower intermodal accessorial revenue and demurrage fees.

The following tables summarize the year-over-year changes in freight revenues, revenue carloads, and ARC by commodity type:

Freight Revenues *Millions*	**2017**	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Agricultural Products	**$ 3,685**	$ 3,625	$ 3,581	**2 %**	1 %
Automotive	**1,998**	2,000	2,154	**-**	(7)
Chemicals	**3,596**	3,474	3,543	**4**	(2)
Coal	**2,645**	2,440	3,237	**8**	(25)
Industrial Products	**4,078**	3,348	3,808	**22**	(12)
Intermodal	**3,835**	3,714	4,074	**3**	(9)
Total	**$19,837**	$18,601	$20,397	**7 %**	(9)%

Revenue Carloads *Thousands*	**2017**	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Agricultural Products	**958**	980	941	**(2)%**	4 %
Automotive	**838**	863	863	**(3)**	-
Chemicals	**1,055**	1,074	1,098	**(2)**	(2)
Coal	**1,232**	1,166	1,459	**6**	(20)
Industrial Products	**1,227**	1,097	1,213	**12**	(10)
Intermodal [a]	**3,278**	3,262	3,488	**-**	(6)
Total	**8,588**	8,442	9,062	**2 %**	(7)%

Average Revenue per Car	**2017**	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Agricultural Products	**$ 3,847**	$ 3,702	$ 3,805	**4 %**	(3)%
Automotive	**2,384**	2,317	2,498	**3**	(7)
Chemicals	**3,410**	3,234	3,227	**5**	-
Coal	**2,146**	2,092	2,218	**3**	(6)
Industrial Products	**3,324**	3,051	3,139	**9**	(3)
Intermodal [a]	**1,170**	1,138	1,168	**3**	(3)
Average	**$ 2,310**	$ 2,203	$ 2,251	**5 %**	(2)%

[a] Each intermodal container or trailer equals one carload.

Agricultural Products – Freight revenue from agricultural products increased compared to 2016 driven by core pricing gains and higher fuel surcharge revenue, partially offset by a 2% decrease in volume. Grain and grain product shipments decreased 3% in 2017 compared to 2016. Strong export demand for wheat drove volume growth in the first half of the year, which was more than offset by declines of grain shipments in the second half of the year due to an abundance of global supply reducing U.S. grain competitiveness.

2017 Agricultural Products Carloads

Picture 14

Freight revenue from agricultural products increased in 2016 compared to 2015 driven by volume growth and core pricing gains, partially offset by lower fuel surcharge revenue and mix of traffic. Grain shipments increased 11% in 2016 compared to 2015 due to strong export demand in the second half of the year. Market conditions in South America and ample supply of U.S. grains led to competitive U.S. pricing relative to the global market.

Automotive – Freight revenue from automotive shipments was flat compared to 2016 as core pricing gains and higher fuel surcharge revenue were offset by a 3% decline in volume and mix of traffic. Finished vehicle shipments fell 7% for the year resulting from lower domestic sales and reduced production for certain manufacturers. Automotive parts shipments grew 1% driven by continued growth in truck-to-rail conversions.

2017 Automotive Carloads

Picture 15

Freight revenue from automotive shipments decreased in 2016 compared to 2015 as a result of lower fuel surcharge revenue and mix of traffic, partially offset by core pricing gains. Volume was flat compared to 2015 as a 7% growth in automotive parts from truck-to-rail conversions was offset by a 5% decrease in finished vehicles resulting from a partial contract loss during the year. Overall U.S. vehicle production was flat compared to 2015.

Chemicals – Freight revenue from chemical shipments increased in 2017 versus 2016 due to core pricing gains, higher fuel surcharge revenue, and mix of traffic, which were

2017 Chemicals Carloads

partially offset by a 2% decrease in volume. Crude oil shipments declined significantly through the third quarter, resulting from continued low crude oil prices, regional pricing differences and available pipeline capacity. Conversely, shipments of refined petroleum products grew due to stronger demand. Fertilizer shipments also increased as a result of continued strength in potash exports.

Picture 16

Freight revenue from chemical shipments declined in 2016 versus 2015 due to volume declines and lower fuel surcharge revenue, which were partially offset by core pricing gains. Crude oil shipments declined significantly resulting from continued low crude oil prices, regional pricing differences and available pipeline capacity. Fertilizer shipments also declined due to weak world-wide demand for potash in the first half of the year and the strong U.S. dollar. These decreases were partially offset by growth in industrial chemical and liquid petroleum gas shipments.

2017 Coal Carloads

Picture 31

Coal – Freight revenue from coal shipments increased in 2017 compared to 2016 driven by volume growth, mix of traffic, and higher fuel surcharge revenue. Shipments out of the Powder River Basin (PRB) grew 5% in 2017 driven by strong growth in the first half of the year due to higher year-over-year natural gas prices and lower inventory levels at utilities. Shipments out of Colorado and Utah increased 7% compared to 2016 due to the same drivers, combined with stronger export demand.

Lower volume, lower fuel surcharge revenue, and mix of traffic resulted in a decline in freight revenue from coal shipments in 2016 compared to 2015. Shipments out of the Powder River Basin (PRB) declined 24% in 2016 due to high inventory levels at utilities and competitive natural gas prices. Shipments out of Colorado and Utah declined 15% compared to 2015 due to the same drivers, combined with lower international demand.

2017 Industrial Products Carloads

Picture 18

Industrial Products – Freight revenue from industrial products shipments increased in 2017 compared to 2016 due to a 12% increase in volume, core pricing gains, higher fuel surcharge revenue, and mix of traffic. Increased shale drilling activity and proppant intensity per drilling well drove substantial volume growth in frac sand shipments. Conversely, rock shipments declined 7% due to inclement weather in the West in the first half of the year, combined with decreased construction activity in Texas.

Freight revenue from industrial products shipments decreased in 2016 compared to 2015 due to volume declines, lower fuel surcharge revenue, and mix of traffic partially offset by core pricing gains. Declines in shale drilling activity, due to lower oil prices, negatively impacted non-metallic mineral (frac sand) shipments compared to 2015. Rock shipments also decreased as weather events and flooding in the Southern Region during the second and third quarters limited construction activity, thus limiting demand for transportation of materials. In addition, steel shipments declined as a result of reductions in shale drilling activity and strong import levels associated with the strength of the U.S. dollar.

2017 Intermodal Carloads

Intermodal – Freight revenue from intermodal shipments increased in 2017 compared to 2016 primarily due to higher fuel surcharge revenue and core pricing gains. Volume was flat versus 2016, as a 1% growth in international shipments was muted by flat domestic shipments due to available truck capacity during most of 2017, offsetting a strong holiday shipping season in the fourth quarter.

Freight revenue from intermodal shipments decreased in 2016 compared to 2015 due to lower volume and lower fuel surcharge revenue, which were partially offset by core pricing gains. Volume levels from international and domestic traffic decreased 11% and 2%, respectively, compared to last year due to weaker global trade activity, softer domestic sales, high retail inventories, and a customer bankruptcy.

Picture 21

Mexico Business – Each of our commodity groups includes revenue from shipments to and from Mexico. Freight revenue from Mexico business was $2.3 billion in 2017, up 2% compared to 2016. Core pricing gains and higher fuel surcharge revenue more than offset the 1% volume decline. The decrease in volume was driven by lower shipments of automotive parts, partially offset by growth in coal and refined petroleum products shipments.

Freight revenue from Mexico business was $2.2 billion in 2016, flat with 2015. Lower fuel surcharge revenue and mix of traffic offset the 4% of volume growth and core pricing gains. Volume growth was driven by Agricultural Products, Coal, and automotive parts shipments.

Operating Expenses

Millions	***2017***	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Compensation and benefits	**$ 4,984**	$ 4,750	$ 5,161	**5 %**	(8)%
Purchased services and materials	**2,363**	2,258	2,421	**5**	(7)
Depreciation	**2,105**	2,038	2,012	**3**	1
Fuel	**1,891**	1,489	2,013	**27**	(26)
Equipment and other rents	**888**	1,137	1,230	**(22)**	(8)
Other	**948**	997	924	**(5)**	8
Total	**$13,179**	$12,669	$13,761	**4 %**	(8)%

2017 Operating Expenses

Picture 18

Operating expenses increased $510 million in 2017 compared to 2016 driven by higher fuel prices, inflation, $86 million of expenses related to the third quarter workforce reduction plan, depreciation, contract services, and volume-related costs. Partially offsetting these increases was a $212 million reduction to operating expense related to income tax adjustments at certain equity-method affiliates, continued productivity gains, lower locomotive and freight car lease expense, and lower environmental, personal injury, and joint facility costs.

Operating expenses decreased $1.1 billion in 2016 compared to 2015 driven by lower fuel prices, volume-related savings, productivity gains and lower locomotive and freight car maintenance expense. These cost reductions were partially offset by inflation, depreciation, and higher environmental and other costs.

Compensation and Benefits – Compensation and benefits include wages, payroll taxes, health and welfare costs, pension costs, other postretirement benefits, and incentive costs. In 2017, expenses increased 5% compared to 2016, driven by general wage and benefit inflation, $86 million of expenses associated with the workforce reduction plan, volume-related costs, and higher training expenses for trainmen, which were partially offset by resource productivity gains.

In 2016, expenses decreased 8% compared to 2015, driven by lower volume-related costs, productivity gains, and lower training expense. General wage and benefit inflation partially offset these decreases.

Purchased Services and Materials – Expense for purchased services and materials includes the costs of services purchased from outside contractors and other service providers (including equipment maintenance and contract expenses incurred by our subsidiaries for external transportation services); materials used to maintain the Railroad's lines, structures, and equipment; costs of operating facilities jointly used by UPRR and other railroads; transportation and lodging for train crew employees; trucking and contracting costs for intermodal containers; leased automobile maintenance expenses; and tools and supplies. Purchased services and materials increased 5% in 2017 compared to 2016 primarily due to volume-related costs (including higher subsidiary contract services) and Hurricane Harvey-related contract service costs, which were partially offset by lower joint facility expenses.

Purchased services and materials in 2016 decreased 7% compared to 2015 primarily due to lower volume-related costs and lower locomotive and freight car repair and maintenance expenses.

Fuel – Fuel includes locomotive fuel and gasoline for highway and non-highway vehicles and heavy equipment. Locomotive diesel fuel prices, which averaged $1.81 per gallon (including taxes and transportation costs) in 2017, compared to $1.48 per gallon in 2016, increased expenses $334 million. In addition, fuel costs were higher as gross-ton miles increased 5% compared to 2016. The fuel consumption rate (c-rate), computed as gallons of fuel consumed divided by gross ton-miles in thousands, improved 2% compared to 2016.

Locomotive diesel fuel prices, which averaged $1.48 per gallon (including taxes and transportation costs) in 2016, compared to $1.84 per gallon in 2015, reduced expenses $347 million. In addition, fuel costs were lower as gross-ton miles decreased 8%. The fuel consumption rate (c-rate), computed as gallons of fuel consumed divided by gross ton-miles in thousands, improved 1% compared to 2015.

Depreciation – The majority of depreciation relates to road property, including rail, ties, ballast, and other track material. A higher depreciable asset base, reflecting recent years' higher capital spending, increased depreciation expense in 2017 compared to 2016. This increase was partially offset by our recent depreciation studies that resulted in lower depreciation rates for some asset classes.

A larger depreciable asset base, reflecting higher capital spending in recent years, increased depreciation expense in 2016 compared to 2015. This increase was partially offset by our recent depreciation studies that resulted in lower depreciation rates for some asset classes.

Equipment and Other Rents – Equipment and other rents expense primarily includes rental expense that the Railroad pays for freight cars owned by other railroads or private companies; freight car, intermodal, and locomotive leases; and office and other rent expenses. Equity income from certain equity method investments is also included. Equipment and other rents expense decreased $249 million compared to 2016. $212 million of the reduction was due to income tax adjustments at certain equity-method affiliates. Lower locomotive and freight car lease expense also contributed to the year-over-year decrease. Conversely, increased car rent expense due to volume growth in certain markets partially offset these decreases.

Equipment and other rents expense decreased $93 million in 2016 compared to 2015 as lower volume levels drove a reduction in car hire and locomotive lease expenses.

Other – Other expenses include state and local taxes, freight, equipment and property damage, utilities, insurance, personal injury, environmental, employee travel, telephone and cellular, computer software, bad debt, and other general expenses. Other expenses decreased 5% in 2017 compared to 2016 as a result of lower environmental and personal injury expenses, and higher bad debt expense in 2016 resulting from a customer bankruptcy. Conversely, increased costs associated with destroyed equipment owned by third parties, and higher property and damaged freight costs partially offset these decreases.

Other expenses increased 8% in 2016 compared to 2015 as a result of higher environmental costs, state and local taxes, bad debt expense (customer bankruptcy), and the write-off of certain in-progress capital projects that were cancelled. These cost increases were partially offset by lower expenses for damaged freight, property, and equipment not owned by the Company.

Non-Operating Items

Millions	***2017***	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Other income	**$ 290**	$ 192	$ 226	**51 %**	(15)%
Interest expense	**(719)**	(698)	(622)	**3**	12
Income tax benefit/(expense)	**3,080**	(2,533)	(2,884)	**F**	(12)%

Other Income – Other income increased in 2017 compared to 2016 primarily as a result of a $65 million gain on a litigation settlement for back rent and a $57 million real estate sale gain, both recognized in the third quarter of 2017. Rental income also increased in 2017 compared to 2016.

Other income decreased in 2016 compared to 2015 primarily due to large real estate transactions: a $113 million gain from a real estate sale in 2015, partially offset by $67 million of gains from two real estate sales in 2016.

Interest Expense – Interest expense increased in 2017 compared to 2016 due to an increased weighted-average debt level of $15.9 billion in 2017 from $15.0 billion in 2016, partially offset by the impact of a lower effective interest rate of 4.6% in 2017 compared to 4.7% in 2016.

Interest expense increased in 2016 compared to 2015 due to an increased weighted-average debt level of $15.0 billion in 2016 from $13.0 billion in 2015, partially offset by the impact of a lower effective interest rate of 4.7% in 2016 compared to 4.8% in 2015.

Income Taxes – Income taxes were a benefit of $3.1 billion in 2017 compared to expense of $2.5 billion in 2016. The Tax Cuts and Jobs Act was enacted on December 22, 2017. The Tax Act reduced the federal income tax rate from 35% to 21% effective January 1, 2018. As a result, we remeasured our deferred tax assets and liabilities which resulted in a $5.9 billion non-cash reduction in our income tax expense in 2017. Higher pre-tax income and an increase in the State of Illinois corporate tax rate effective July 1, 2017 modestly offset the impact of the deferred tax adjustment. Our effective tax rate for 2017 was (40.4%) compared to 37.4% in 2016.

Lower pre-tax income decreased income taxes in 2016 compared to 2015. Our effective tax rate for 2016 was 37.4% compared to 37.7% in 2015.

OTHER OPERATING/PERFORMANCE AND FINANCIAL STATISTICS

We report a number of key performance measures weekly to the Association of American Railroads. We provide this data on our website at www.up.com/investor/aar-stb_reports/index.htm.

Operating/Performance Statistics

Railroad performance measures are included in the table below:

	2017	*2016*	*2015*	***% Change 2017 v 2016***	*% Change 2016 v 2015*
Average train speed (miles per hour)	**25.4**	26.6	25.4	**(5)%**	5 %
Average terminal dwell time (hours)	**30.3**	28.1	29.3	**8 %**	(4)%
Gross ton-miles (billions)	**898.7**	856.9	927.7	**5 %**	(8)%
Revenue ton-miles (billions)	**466.7**	440.1	485.0	**6 %**	(9)%
Operating ratio	**62.0**	63.5	63.1	**(1.5) pts**	0.4 pts
Employees (average)	**41,992**	42,919	47,457	**(2)%**	(10)%

Average Train Speed – Average train speed is calculated by dividing train miles by hours operated on our main lines between terminals. Average train speed, as reported to the Association of American Railroads, declined 5% in 2017 compared to 2016 as disruptions across our network, including the impact of Hurricane Harvey, negatively impacted network fluidity. Continued implementation and testing of Positive Train Control across a growing number of routes in our network combined with operational challenges also negatively impacted overall average train speed.

Average train speed improved 5% in 2016 compared to 2015. Velocity gains resulted from lower volumes, improved network fluidity and a strong resource position.

Average Terminal Dwell Time – Average terminal dwell time is the average time that a rail car spends at our terminals. Lower average terminal dwell time improves asset utilization and service. Average terminal dwell time increased 8% in 2017 compared to 2016 resulting from network disruptions and operational challenges which negatively impacted network fluidity.

Average terminal dwell time improved 4% in 2016 compared to 2015, reflecting the impact of lower volume and improved network operations.

Gross and Revenue Ton-Miles – Gross ton-miles are calculated by multiplying the weight of loaded and empty freight cars by the number of miles hauled. Revenue ton-miles are calculated by multiplying the weight of freight by the number of tariff miles. Gross ton-miles and revenue ton-miles increased 5% and 6%, respectively in 2017 compared to 2016, resulting from a 2% increase in carloads. Changes in commodity mix drove the variances in year-over-year increases between gross ton-miles, revenue ton-miles, and carloads.

Gross ton-miles and revenue ton-miles decreased 8% and 9%, respectively in 2016 compared to 2015, resulting from a 7% decrease in carloads. Changes in commodity mix drove the variances in year-over-year declines between gross ton-miles, revenue ton-miles and carloads.

Operating Ratio – Operating ratio is our operating expenses reflected as a percentage of operating revenue. Our operating ratio improved 1.5 points to 62.0% in 2017 compared to 2016. Income tax adjustments at our equity-method affiliates drove one point of the improvement. Core pricing gains, volume leverage, and productivity savings more than offset higher inflation, $86 million of costs associated with the workforce reduction plan, higher fuel prices, and other expenses to drive 0.5 points of operating ratio improvement.

Our operating ratio increased 0.4 points to 63.5% in 2016 compared to 2015. Core price improvements, network efficiencies, and productivity gains were more than offset by the impact of lower volume, inflation, and other costs.

Employees – Employee levels decreased 2% in 2017 compared to 2016 driven by productivity gains, a smaller capital workforce, and fewer management and administrative personnel, which more than offset the impact of 2% volume growth.

Employee levels decreased 10% in 2016 compared to 2015, driven by lower volume levels, productivity gains, a smaller capital workforce, and fewer transportation employees in training.

Return on Average Common Shareholders' Equity

Millions, Except Percentages	***2017***	*2016*	*2015*
Net income	**$10,712**	$ 4,233	$ 4,772
Average equity	**$22,394**	$20,317	$20,946
Return on average common shareholders' equity	**47.8%**	20.8%	22.8%

Return on Invested Capital as Adjusted (ROIC)

Millions, Except Percentages	***2017***	*2016*	*2015*
Net income	**$10,712**	$ 4,233	$ 4,772
Interest expense	**719**	698	622
Interest on present value of operating leases	**105**	121	135
Taxes on interest	**(309)**	(306)	(285)
Net operating profit after taxes as adjusted (a)	**$11,227**	$ 4,746	$ 5,244
Average equity	**$22,394**	$20,317	$20,946
Average debt	**15,976**	14,604	12,807
Average present value of operating leases	**2,288**	2,581	2,814
Average invested capital as adjusted (b)	**$40,658**	$37,502	$36,567
Return on invested capital as adjusted (a/b)	**27.6%**	12.7%	14.3%

ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. In addition, we currently use ROIC as a performance criteria in determining certain elements of equity compensation for our executives. ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity. The tables above provide reconciliations from return on average common shareholders' equity to ROIC. Our 2017 ROIC of 27.6% increased compared to 2016, largely as a result the $5.9 billion reduction to our deferred tax liability, that was recognized as an income tax benefit in 2017 (See Note 8 of the Consolidated Financial Statements for additional information). Higher earnings from base operations also contributed to the increase, more than offsetting our higher invested capital base.

Net Return on Invested Capital as Adjusted (Net ROIC)

The table below reconciles ROIC as previously calculated to Net ROIC for items affecting comparability.

	2017	*2016*	*2015*
Return on invested capital as adjusted	**27.6%**	12.7%	14.3%
Factors Affecting Comparability:			
Adjustments for Tax Cuts and Jobs Act [a]	**(13.9)**	N/A	N/A
Net Return on Invested Capital as Adjusted	**13.7%**	12.7%	14.3%

[a] Adjustments remove the impact of $5.9 billion and $139 million from both 12/31/17 Net Income and 12/31/17 Shareholders' Equity.

Net ROIC is considered a non-GAAP financial measure by SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the efficiency and effectiveness of our long-term capital investments. We use Net ROIC to demonstrate year over year comparability for significant items. Net ROIC should be considered in addition to, rather than as a substitute for, other information provided in accordance with GAAP. The most comparable GAAP measure is Return on Average Common Shareholders' Equity.

Debt to Capital

Millions, Except Percentages	***2017***	*2016*
Debt (a)	**$16,944**	$15,007
Equity	**24,856**	19,932
Capital (b)	**$41,800**	$34,939
Debt to capital (a/b)	**40.5%**	43.0%

Adjusted Debt to Capital

Millions, Except Percentages	***2017***	*2016*
Debt	**$16,944**	$15,007
Net present value of operating leases	**2,140**	2,435
Unfunded pension and OPEB, net of taxes of $238 and $261	**396**	436
Adjusted debt (a)	**$19,480**	$17,878
Equity	**24,856**	19,932
Adjusted capital (b)	**$44,336**	$37,810
Adjusted debt to capital (a/b)	**43.9%**	47.3%

Adjusted debt to capital is a non-GAAP financial measure under SEC Regulation G and Item 10 of SEC Regulation S-K, and may not be defined and calculated by other companies in the same manner. We believe this measure is important to management and investors in evaluating the total amount of leverage in our capital structure, including off-balance sheet lease obligations, which we generally incur in connection with financing the acquisition of locomotives and freight cars and certain facilities. Operating leases were discounted using 4.6% and 4.7% at December 31, 2017, and 2016, respectively. The discount rate reflects our effective interest rate. We monitor the ratio of adjusted debt to capital as we manage our capital structure to balance cost-effective and efficient access to the capital markets with our overall cost of capital. Adjusted debt to capital should be considered in addition to, rather than as a substitute for, debt to capital. The tables above provide reconciliations from debt to capital to adjusted debt to capital. Our December 31, 2017 debt to capital ratios decreased as a result of a $4.9 billion increase in equity from December 31, 2016. The increase in equity is largely due to a $5.9 billion reduction to our deferred tax liability that was recognized as an income tax benefit in 2017.

LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2017, our principal sources of liquidity included cash, cash equivalents, our receivables securitization facility, and our revolving credit facility, as well as the availability of commercial paper and other sources of financing through the capital markets. We had $1.7 billion of committed credit available under our credit facility, with no borrowings outstanding as of December 31, 2017. We did not make any borrowings under this facility during 2017. The value of the outstanding undivided interest held by investors under the $650 million capacity receivables securitization facility was $500 million as of December 31, 2017. Our access to this receivables securitization facility may be reduced or restricted if our bond ratings fall to certain levels below investment grade. If our bond rating were to deteriorate, it could have an adverse impact on our liquidity. Access to commercial paper as well as other capital market financings is dependent on market conditions. Deterioration of our operating results or financial condition due to internal or external factors could negatively impact our ability to access capital markets as a source of liquidity. Access to liquidity through the capital markets is also dependent on our financial stability. We expect that we will continue to have access to liquidity through any or all of the following sources or activities: (i) increasing the size or utilization of our receivables securitization, (ii) issuing commercial paper, (iii) entering into bank loans, outside of our revolving credit facility, or (iv) issuing bonds or other debt securities to public or private investors based on our assessment of the current condition of the credit markets. The Company's $1.7 billion revolving credit facility is intended to support the issuance of commercial paper by UPC and also serves as an emergency source of liquidity. The Company currently does not intend to make any borrowings under this facility.

At December 31, 2017, we had a working capital surplus. At December 31, 2016, we had a working capital deficit. The decrease at 2016 year-end was primarily due to a decrease in other current assets related to a tax receivable for the late extension of bonus depreciation at December 31, 2015, along with an increase at December 31, 2016, in accounts payable and upcoming debt maturities. We maintain adequate resources, and when necessary, have adequate access to capital markets to meet any foreseeable cash requirements, in addition to sufficient financial capacity to satisfy our current liabilities.

Cash Flows			
Millions	***2017***	*2016*	*2015*
Cash provided by operating activities	**$ 7,230**	$ 7,525	$ 7,344
Cash used in investing activities	**(3,086)**	(3,393)	(4,476)
Cash used in financing activities	**(4,146)**	(4,246)	(3,063)
Net change in cash and cash equivalents	**$ (2)**	$ (114)	$ (195)

Operating Activities

Cash provided by operating activities decreased in 2017 compared to 2016 due to the timing of tax payments in 2016 related to bonus depreciation on capital spending. The decrease was mostly offset by higher income in 2017 compared to 2016.

Cash provided by operating activities increased in 2016 compared to 2015. The timing of tax payments primarily related to bonus depreciation and changes in working capital more than offset lower net income.

The Tax Act was enacted on December 22, 2017. The Tax Act extended 100% bonus depreciation effective September 27, 2017 through 2022, and phases out bonus deprecation by 2027.

Investing Activities

Lower capital investments and short-term investment purchases decreased cash used in investing activities in 2017 compared to 2016.

Lower capital investments, partially offset by short-term investment purchases, decreased cash used in investing activities in 2016 compared to 2015.

The following tables detail cash capital investments and track statistics for the years ended December 31, 2017, 2016, and 2015:

Millions	***2017***	*2016*	*2015*
Rail and other track material	**$ 619**	$ 628	$ 734
Ties	**480**	494	455
Ballast	**231**	235	233
Other [a]	**503**	480	438
Total road infrastructure replacements	**1,833**	1,837	1,860
Line expansion and other capacity projects	**124**	153	457
Commercial facilities	**189**	152	227
Total capacity and commercial facilities	**313**	305	684
Locomotives and freight cars [b]	**607**	854	1,436
Positive train control	**336**	371	381
Technology and other	**149**	138	289
Total cash capital investments	**$ 3,238**	$ 3,505	$ 4,650

[a] Other includes bridges and tunnels, signals, other road assets, and road work equipment.

[b] Locomotives and freight cars include early lease buyouts of $173 million in 2017, $90 million in 2016, and $327 million in 2015.

	2017	*2016*	*2015*
Track miles of rail replaced	**731**	791	767
Track miles of rail capacity expansion	**11**	52	103
New ties installed (thousands)	**4,026**	4,482	4,178
Miles of track surfaced	**11,071**	11,764	10,076

Capital Plan – In 2018, we expect our capital plan to be approximately $3.3 billion, which may be revised if business conditions or the regulatory environment affect our ability to generate sufficient returns on these investments. While asset replacements will fluctuate as part of our renewal strategy, we expect to use around 70% of our capital investments to renew and improve existing capital assets. We will continue to balance investment in our network infrastructure and terminal capacity as appropriate, including initial construction work on a new classification yard in our Southern Region. Significant investments in technology improvements are planned, including PTC. We also will continue commercial investments in rail facilities and equipment, including approximately 60 new locomotives, intermodal containers and chassis, and freight cars.

We expect to fund our 2018 cash capital plan by using some or all of the following: cash generated from operations, proceeds from the sale or lease of various operating and non-operating properties, proceeds from the issuance of long-term debt, and cash on hand. Our annual capital plan is a critical component of our long-term strategic plan. We expect our plan will enhance the long-term value of the Company for our shareholders by providing sufficient resources to (i) replace and improve our existing track infrastructure to provide safe and fluid operations, (ii) increase network efficiency by adding or improving facilities and track, and (iii) make investments that meet customer demand and take advantage of opportunities for long-term growth.

Financing Activities

Cash used in financing activities decreased in 2017 compared to 2016. An increase of $908 million in common shares purchased and an increase of $103 million in dividends paid was more than offset by an increase of $752 million in debt issued, a decrease of $173 million in debt repaid, and a decrease of $191 million in debt exchange costs.

Cash used in financing activities increased in 2016 compared to 2015. An increase of $457 million in debt repaid and a decrease of $1,345 million in debt issued more than offset a decrease of $465 million in dividends paid. The decrease in dividends paid was a result of adjusting the dividend payable dates in 2015 to align with the timing of the quarterly dividend declaration and payment dates within the same quarter. Aligning the quarterly dividend declaration and payment resulted in two payments in the first quarter of 2015: the fourth quarter 2014 dividend of $438 million, which was paid on January 2, 2015, as well as the first quarter 2015 dividend of $484 million, which was paid on March 30, 2015. The second quarter 2015 dividend of $479 million was paid on June 30, 2015, the third quarter 2015 dividend of $476 million was paid on September 30, 2015, and the fourth quarter 2015 dividend of $467 million was paid on December 31, 2015.

See Note 15 of the Consolidated Financial Statements for a description of all our outstanding financing arrangements and significant new borrowings.

Ratio of Earnings to Fixed Charges

For each of the years ended December 31, 2017, 2016, and 2015, our ratio of earnings to fixed charges was 10.3, 9.6, and 11.6, respectively. The ratio of earnings to fixed charges was computed on a consolidated basis. Earnings represent income from continuing operations, less equity earnings net of distributions, plus fixed charges and income taxes. Fixed charges represent interest charges, amortization of debt discount, and the estimated amount representing the interest portion of rental charges. (See Exhibit 12 to this report for the calculation of the ratio of earnings to fixed charges.)

Common Shareholders' Equity

Dividend Restrictions – Our revolving credit facility includes a debt-to-net worth covenant (discussed in the Credit Facilities section above) that, under certain circumstances, restricts the payment of cash dividends to our shareholders. The amount of retained earnings available for dividends was $16.4 billion and $12.4 billion at December 31, 2017, and 2016, respectively.

Share Repurchase Program

Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020, replacing our previous repurchase program. As of December 31, 2017, we repurchased a total of $23.2 billion of our common stock since the commencement of our repurchase programs in 2007. The table below represents shares repurchased in 2017 under this repurchase program and shares repurchased in 2016 under our previous purchase program.

	Number of Shares Purchased		*Average Price Paid*	
	2017	*2016*	***2017***	*2016*
First quarter	**7,531,300**	9,315,807	**$ 106.55**	$ 76.49
Second quarter	**7,788,283**	7,026,100	**109.10**	85.66
Third quarter	**11,801,755**	9,088,613	**106.69**	93.63
Fourth quarter	**9,231,510**	9,624,667	**119.37**	97.60
Total	**36,352,848**	35,055,187	**$ 110.40**	$ 88.57

Management's assessments of market conditions and other pertinent facts guide the timing and volume of all repurchases. We expect to fund any share repurchases under this program through cash generated from operations, the sale or lease of various operating and non-operating properties, debt issuances, and cash on hand. Repurchased shares are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2018, through February 8, 2018, we repurchased 2.6 million shares at an aggregate cost of approximately $349 million.

Contractual Obligations and Commercial Commitments

As described in the notes to the Consolidated Financial Statements and as referenced in the tables below, we have contractual obligations and commercial commitments that may affect our financial condition. Based on our assessment of the underlying provisions and circumstances of our contractual obligations and commercial commitments, including material sources of off-balance sheet and structured finance arrangements, other than the risks that we and other similarly situated companies face with respect to the condition of the capital markets (as described in Item 1A of Part II of this report), there is no known trend, demand, commitment, event, or uncertainty that is reasonably likely to occur that would have a material adverse effect on our consolidated results of operations, financial condition, or liquidity. In addition, our commercial obligations, financings, and commitments are customary transactions that are similar to those of other comparable corporations, particularly within the transportation industry.

The following tables identify material obligations and commitments as of December 31, 2017:

Contractual Obligations		*Payments Due by December 31,*						
Millions	*Total*	*2018*	*2019*	*2020*	*2021*	*2022*	*After 2022*	*Other*
Debt [a]	$28,965	$1,325	$1,614	$1,473	$1,098	$1,337	$22,118	$ -
Operating leases [b]	2,649	398	359	297	259	221	1,115	-
Capital lease obligations [c]	1,079	173	156	164	168	147	271	-
Purchase obligations [d]	2,789	1,573	459	319	247	48	111	32
Other post retirement benefits [e]	479	50	49	49	48	48	235	-
Income tax contingencies [f]	179	56	-	-	-	-	-	123
Total contractual obligations	$36,140	$3,575	$2,637	$2,302	$1,820	$1,801	$23,850	$ 155

[a] Excludes capital lease obligations of $892 million, as well as unamortized discount and deferred issuance costs of $(887) million. Includes an interest component of $12,026 million.

[b] Includes leases for locomotives, freight cars, other equipment, and real estate.

[c] Represents total obligations, including interest component of $187 million.

[d] Purchase obligations include locomotive maintenance contracts; purchase commitments for fuel purchases, locomotives, ties, ballast, and rail; and agreements to purchase other goods and services. For amounts where we cannot reasonably estimate the year of settlement, they are reflected in the Other column.

[e] Includes estimated other post retirement, medical, and life insurance payments, payments made under the unfunded pension plan for the next ten years.

[f] Future cash flows for income tax contingencies reflect the recorded liabilities and assets for unrecognized tax benefits, including interest and penalties, as of December 31, 2017. For amounts where the year of settlement is uncertain, they are reflected in the Other column.

Other Commercial Commitments		*Amount of Commitment Expiration per Period*					
Millions	*Total*	*2018*	*2019*	*2020*	*2021*	*2022*	*After 2022*
Credit facilities [a]	$1,700	$ -	$1,700	$ -	$ -	$ -	$ -
Receivables securitization facility [b]	650	-	650	-	-	-	-
Guarantees [c]	33	11	7	5	5	5	-
Standby letters of credit [d]	19	19	-	-	-	-	-
Total commercial commitments	$2,402	$ 30	$2,357	$ 5	$ 5	$ 5	$ -

[a] None of the credit facility was used as of December 31, 2017.

[b] $500 million of the receivables securitization facility was utilized as of December 31, 2017, which is accounted for as debt. The full program matures in July 2019.

[c] Includes guaranteed obligations related to our affiliated operations.

[d] None of the letters of credit were drawn upon as of December 31, 2017.

Off-Balance Sheet Arrangements

Guarantees – At December 31, 2017, and 2016, we were contingently liable for $33 million and $43 million in guarantees. The fair value of these obligations as of both December 31, 2017, and 2016, was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

OTHER MATTERS

Labor Agreements – Approximately 85% of our 41,992 full-time-equivalent employees are represented by 14 major rail unions. On January 1, 2015, current labor agreements became subject to modification and we began the current round of negotiations with the unions. Existing agreements remain in effect until new agreements are ratified or the Railway Labor Act's (RLA) procedures (which include mediation, potential arbitration, cooling-off periods, and the possibility of Presidential Emergency Boards and Congressional intervention) are exhausted. Through industry and local negotiations, UPRR reached tentative new agreements with 12 of our 14 major rail unions. Nine unions (representing nearly 70% of our agreement work force) have ratified those agreements by significant margins. The tentative agreement failed ratification with two unions in early February 2018 (representing about 10% of our agreement work force) returning any further discussions with them to the jurisdiction of the National Mediation Board. Another small union (less than 1%) is still out for ratification. UPRR and the industry currently continue in active mediation with the remaining coalition of two unions (representing about 20% of our agreement work force). Under the Railway Labor Act, the National Mediation Board controls timing and location of mediation conferences and when to terminate mediation, moving the parties to the next stages of the RLA process. Contract negotiations historically continue for an extended period of time and we rarely experience work stoppages while negotiations are pending.

Inflation – Long periods of inflation significantly increase asset replacement costs for capital-intensive companies. As a result, assuming that we replace all operating assets at current price levels, depreciation charges (on an inflation-adjusted basis) would be substantially greater than historically reported amounts.

Sensitivity Analyses – The sensitivity analyses that follow illustrate the economic effect that hypothetical changes in interest rates could have on our results of operations and financial condition. These hypothetical changes do not consider other factors that could impact actual results.

At December 31, 2017, we had variable-rate debt representing approximately 4.4% of our total debt. If variable interest rates average one percentage point higher in 2018 than our December 31, 2017 variable rate, which was approximately 2.2%, our interest expense would increase by approximately $7.5 million. This amount was determined by considering the impact of the hypothetical interest rate on the balances of our variable-rate debt at December 31, 2017.

Market risk for fixed-rate debt is estimated as the potential increase in fair value resulting from a hypothetical one percentage point decrease in interest rates as of December 31, 2017, and amounts to an increase of approximately $2.2 billion to the fair value of our debt at December 31, 2017. We estimated the fair values of our fixed-rate debt by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates.

Accounting Pronouncements – See Note 3 to the Consolidated Financial Statements.

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Indemnities – Our maximum potential exposure under indemnification arrangements, including certain tax indemnifications, can range from a specified dollar amount to an unlimited amount, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

Climate Change – Although climate change could have an adverse impact on our operations and financial performance in the future (see Risk Factors under Item 1A of this report), we are currently unable to predict the manner or severity of such impact. However, we continue to take steps and explore opportunities to reduce the impact of our operations on the environment, including investments in new technologies, using training programs to reduce fuel consumption, and changing our operations to increase fuel efficiency.

CRITICAL ACCOUNTING POLICIES

Our Consolidated Financial Statements have been prepared in accordance with GAAP. The preparation of these financial statements requires estimation and judgment that affect the reported amounts of revenues, expenses, assets, and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The following critical accounting policies are a subset of our significant accounting policies described in Note 2 to the Financial Statements and Supplementary Data, Item 8. These critical accounting policies affect significant areas of our financial statements and involve judgment and estimates. If these estimates differ significantly from actual results, the impact on our Consolidated Financial Statements may be material.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 95% of the recorded liability is related to asserted claims and approximately 5% is related to unasserted claims at December 31, 2017. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $285 million to $310 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 290**	$ 318	$ 335
Current year accruals	**77**	75	89
Changes in estimates for prior years	**(7)**	(29)	(3)
Payments	**(75)**	(74)	(103)
Ending balance at December 31	**$ 285**	$ 290	$ 318
Current portion, ending balance at December 31	**$ 66**	$ 62	$ 63

Our personal injury claims activity was as follows:

	2017	*2016*	*2015*
Open claims, beginning balance	**2,157**	2,404	2,618
New claims	**3,024**	2,453	2,573
Settled or dismissed claims	**(3,091)**	(2,700)	(2,787)
Open claims, ending balance at December 31	**2,090**	2,157	2,404

In conjunction with the liability update performed in 2017, we also reassessed our estimated insurance recoveries. We have recognized an asset for estimated insurance recoveries at December 31, 2017, and 2016. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Asbestos – We are a defendant in a number of lawsuits in which current and former employees and other parties allege exposure to asbestos. We assess our potential liability using a statistical analysis of resolution costs for asbestos-related claims. This liability is updated annually and excludes future defense and processing costs. The liability for resolving both asserted and unasserted claims was based on the following assumptions:

- The ratio of future claims by alleged disease would be consistent with historical averages adjusted for inflation.

- The number of claims filed against us will decline each year.
- The average settlement values for asserted and unasserted claims will be equivalent to historical averages.
- The percentage of claims dismissed in the future will be equivalent to historical averages.

Our liability for asbestos-related claims is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 16% of the recorded liability related to asserted claims and approximately 84% related to unasserted claims at December 31, 2017. Because of the uncertainty surrounding the ultimate outcome of asbestos-related claims, it is reasonably possible that future costs to settle these claims may range from approximately $99 million to $105 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other.

Our asbestos-related liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 111**	$ 120	$ 126
Accruals/(Credits)	**(1)**	12	-
Payments	**(11)**	(21)	(6)
Ending balance at December 31	**$ 99**	$ 111	$ 120
Current portion, ending balance at December 31	**$ 9**	$ 8	$ 6

Our asbestos-related claims activity was as follows:

	2017	*2016*	*2015*
Open claims, beginning balance	**943**	1,089	1,065
New claims	**60**	164	193
Settled or dismissed claims	**(214)**	(310)	(169)
Open claims, ending balance at December 31	**789**	943	1,089

In conjunction with the liability update performed in 2017, we also reassessed our estimated insurance recoveries. We have recognized an asset for estimated insurance recoveries at December 31, 2017, and 2016. The amounts recorded for asbestos-related liabilities and related insurance recoveries were based on currently known facts. However, future events, such as the number of new claims filed each year, average settlement costs, and insurance coverage issues, could cause the actual costs and insurance recoveries to be higher or lower than the projected amounts. Estimates also may vary in the future if strategies, activities, and outcomes of asbestos litigation materially change; federal and state laws governing asbestos litigation increase or decrease the probability or amount of compensation of claimants; and there are material changes with respect to payments made to claimants by other defendants.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 315 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 33 sites that are the subject of actions taken by the U.S. government, 21 of which are currently on the Superfund National Priorities List. Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 212**	$ 190	$ 182

Accruals		**45**		84		61
Payments		**(61)**		(62)		(53)
Ending balance at December 31	**$**	**196**	$	212	$	190
Current portion, ending balance at December 31	**$**	**57**	$	55	$	52

Our environmental site activity was as follows:

	2017	*2016*	*2015*
Open sites, beginning balance	**292**	290	270
New sites	**77**	85	66
Closed sites	**(54)**	(83)	(46)
Open sites, ending balance at December 31	**315**	292	290

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, yard and switching tracks, and electronic yards) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad property by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. Rail in high-density traffic corridors accounts for approximately 70 percent of the historical cost of rail and other track material. Based on the number of gross ton-miles carried over our rail in high density traffic corridors during 2017, the estimated service lives of the majority of this rail ranged from approximately 19 years to approximately 41 years. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Estimated service lives of depreciable railroad property may vary over time due to changes in physical use, technology, asset strategies, and other factors that will have an impact on the retirement profiles of our assets. We are not aware of any specific factors that are reasonably likely to significantly change the estimated service lives of our assets. Actual use and retirement of our assets may vary from our current estimates, which would impact the amount of depreciation expense recognized in future periods.

Changes in estimated useful lives of our assets due to the results of our depreciation studies could significantly impact future periods' depreciation expense and have a material impact on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by approximately $65 million. If the estimated useful lives of all depreciable assets were decreased by one year, annual depreciation expense would increase by approximately $70 million. Our recent depreciation studies have resulted in lower depreciation rates for some asset classes. These lower rates will partially offset the impact of a projected higher depreciable asset base, resulting in an increase in total depreciation expense by approximately 5% in 2018 versus 2017.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) it is unusual, (ii) it is material in amount, and (iii) it varies significantly from the retirement profile identified through our depreciation studies. During the last three fiscal years, no gains or losses were recognized due to the retirement of depreciable railroad properties. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity. For example, a permanent 1% increase in future income tax rates would increase our deferred tax liability by approximately $430 million. Similarly, a permanent 1% decrease in future income tax rates would decrease our deferred tax liability by approximately $430 million.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2018 and 2017, there were no valuation allowances.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Other Postretirement Benefits – We use an actuarial analysis to measure the liabilities and expenses associated with providing pension and medical and life insurance benefits (OPEB) to eligible employees. In order to use actuarial methods to value the liabilities and expenses, we must make several assumptions. The critical assumptions used to measure pension obligations and expenses are the discount rates and expected rate of return on pension assets. For OPEB, the critical assumptions are the discount rates and health care cost trend rate.

We evaluate our critical assumptions at least annually, and selected assumptions are based on the following factors:

- Beginning in 2016, we measure the service cost and interest cost components of our net periodic benefit cost by using individual spot rates matched with separate cash flows for each future year. Discount rates are based on a Mercer yield curve of high quality corporate bonds (rated AA by a recognized rating agency).
- Expected return on plan assets is based on our asset allocation mix and our historical return, taking into consideration current and expected market conditions.
- Health care cost trend rate is based on our historical rates of inflation and expected market conditions.

The following tables present the key assumptions used to measure net periodic pension and OPEB cost/(benefit) for 2018 and the estimated impact on 2018 net periodic pension and OPEB cost/(benefit) relative to a change in those assumptions:

Assumptions	*Pension*	*OPEB*
Discount rate for benefit obligations	3.62%	3.53%
Discount rate for interest on benefit obligations	3.27%	3.12%
Discount rate for service cost	3.77%	3.72%
Discount rate for interest on service cost	3.72%	3.65%
Expected return on plan assets	7.00%	N/A
Compensation increase	4.13%	N/A
Health care cost trend rate:		
Pre-65 current	N/A	6.31%
Pre-65 level in 2038	N/A	4.50%

Sensitivities	*Increase in Expense*	
Millions	*Pension*	*OPEB*
0.25% decrease in discount rates	$ 12	$ -
0.25% increase in compensation scale	$ 8	N/A
0.25% decrease in expected return on plan assets	$ 9	N/A
1% increase in health care cost trend rate	N/A	$ 3

The following table presents the net periodic pension and OPEB cost for the years ended December 31:

Millions	*Est. 2018*	*2017*	*2016*	*2015*
Net periodic pension cost	$ 69	$ 115	$ 43	$ 120
Net periodic OPEB cost	22	22	13	19

CAUTIONARY INFORMATION

Certain statements in this report, and statements in other reports or information filed or to be filed with the SEC (as well as information included in oral statements or other written statements made or to be made by us), are, or will be, forward-looking statements as defined by the Securities Act of 1933 and the Securities Exchange Act of 1934. These forward-looking statements and information include, without limitation, (A) statements in the Chairman’s letter preceding Part I; statements regarding planned capital expenditures under the caption “2018 Capital Plan” in Item 2 of Part I; statements regarding dividends in Item 5 of Part II; and statements and information set forth under the captions “2018 Outlook”; “Liquidity and Capital Resources”; and “Pension and Other Postretirement Benefits” in this Item 7 of Part II, and (B) any other statements or information in this report (including information incorporated herein by reference) regarding: expectations as to financial performance, revenue growth and cost savings; the time by which goals, targets, or objectives will be achieved; projections, predictions, expectations, estimates, or forecasts as to our business, financial and operational results, future economic performance, and general economic conditions; expectations as to operational or service performance or improvements; expectations as to the effectiveness of steps taken or to be taken to improve operations and/or service, including capital expenditures for infrastructure improvements and equipment acquisitions, any strategic business acquisitions, and modifications to our transportation plans, including implementation of PTC; expectations as to existing or proposed new products and services; expectations as to the impact of any new regulatory activities or legislation on our operations or financial results; estimates of costs relating to environmental remediation and restoration; estimates and expectations regarding tax matters; expectations that claims, litigation, environmental costs, commitments, contingent liabilities, labor negotiations or agreements, or other matters will not have a material adverse effect on our consolidated results of operations, financial condition, or liquidity and any other similar expressions concerning matters that are not historical facts. Forward-looking statements may be identified by their use of forward-looking terminology, such as "believes," "expects," "may," "should," "would," "will," "intends," "plans," "estimates," "anticipates," "projects" and similar words, phrases or expressions.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times that, or by which, such performance or results will be achieved. Forward-looking statements and information are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements and information. Forward-looking statements and information reflect the good faith consideration by management of currently available information, and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances over which management has little or no influence or control. The Risk Factors in Item 1A of this report could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in any forward-looking statements or information. To the extent circumstances require or we deem it otherwise necessary, we will update or amend these risk factors in a Form 10-Q, Form 8-K or subsequent Form 10-K. All forward-looking statements are qualified by, and should be read in conjunction with, these Risk Factors.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information concerning market risk sensitive instruments is set forth under Management's Discussion and Analysis of Financial Condition and Results of Operations – Other Matters, Item 7.

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Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2017 and 2016, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Corporation as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Corporation's internal control over financial reporting as of December 31, 2017, 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 9, 2018, expressed an unqualified opinion on the Corporation's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 9, 2018

We have served as the Corporation's auditor since 1967.

CONSOLIDATED STATEMENTS OF INCOME
Union Pacific Corporation and Subsidiary Companies

Millions, Except Per Share Amounts, for the Years Ended December 31,	***2017***	*2016*	*2015*
Operating revenues:			
Freight revenues	**$19,837**	$18,601	$20,397
Other revenues	**1,403**	1,340	1,416
Total operating revenues	**21,240**	19,941	21,813
Operating expenses:			
Compensation and benefits	**4,984**	4,750	5,161
Purchased services and materials	**2,363**	2,258	2,421
Depreciation	**2,105**	2,038	2,012
Fuel	**1,891**	1,489	2,013
Equipment and other rents	**888**	1,137	1,230
Other	**948**	997	924
Total operating expenses	**13,179**	12,669	13,761
Operating income	**8,061**	7,272	8,052
Other income (Note 7)	**290**	192	226
Interest expense	**(719)**	(698)	(622)
Income before income taxes	**7,632**	6,766	7,656
Income tax benefit/(expense) (Note 8)	**3,080**	(2,533)	(2,884)
Net income	**$10,712**	$ 4,233	$ 4,772
Share and Per Share (Note 9):			
Earnings per share - basic	**$ 13.42**	$ 5.09	$ 5.51
Earnings per share - diluted	**$ 13.36**	$ 5.07	$ 5.49
Weighted average number of shares - basic	**798.4**	832.4	866.2
Weighted average number of shares - diluted	**801.7**	835.4	869.4
Dividends declared per share	**$ 2.48**	$ 2.255	$ 2.20

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2017***	*2016*	*2015*
Net income	**$10,712**	$ 4,233	$ 4,772
Other comprehensive income/(loss):			
Defined benefit plans	**103**	(29)	58
Foreign currency translation	**28**	(48)	(43)
Total other comprehensive income/(loss) [a]	**131**	(77)	15
Comprehensive income	**$10,843**	$ 4,156	$ 4,787

[a] Net of deferred taxes of $(61) million, $49 million, $(8) million, and during 2017, 2016, and 2015, respectively.

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

Union Pacific Corporation and Subsidiary Companies

Millions, Except Share and Per Share Amounts as of December 31,	***2017***	*2016*
Assets		
Current assets:		
Cash and cash equivalents	**$ 1,275**	$ 1,277
Short-term investments (Note 14)	**90**	60
Accounts receivable, net (Note 11)	**1,493**	1,258
Materials and supplies	**749**	717
Other current assets	**399**	284
Total current assets	**4,006**	3,596
Investments	**1,809**	1,457
Net properties (Note 12)	**51,605**	50,389
Other assets	**386**	276
Total assets	**$ 57,806**	$ 55,718
Liabilities and Common Shareholders' Equity		
Current liabilities:		
Accounts payable and other current liabilities (Note 13)	**$ 3,139**	$ 2,882
Debt due within one year (Note 15)	**800**	758
Total current liabilities	**3,939**	3,640
Debt due after one year (Note 15)	**16,144**	14,249
Deferred income taxes (Note 8)	**10,936**	15,996
Other long-term liabilities	**1,931**	1,901
Commitments and contingencies (Notes 17 and 18)		
Total liabilities	**32,950**	35,786
Common shareholders' equity:		
Common shares, $2.50 par value, 1,400,000,000 authorized;		
1,111,371,304 and 1,110,986,415 issued; 780,917,756 and 815,824,413		
outstanding, respectively	**2,778**	2,777
Paid-in-surplus	**4,476**	4,421
Retained earnings	**41,317**	32,587
Treasury stock	**(22,574)**	(18,581)
Accumulated other comprehensive loss (Note 10)	**(1,141)**	(1,272)
Total common shareholders' equity	**24,856**	19,932
Total liabilities and common shareholders' equity	**$ 57,806**	$ 55,718

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2017***	*2016*	*2015*
Operating Activities			
Net income	**$10,712**	$ 4,233	$ 4,772
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation	**2,105**	2,038	2,012
Deferred and other income taxes	**(5,067)**	831	765
Net gain on non-operating asset dispositions	**(111)**	(94)	(144)
Other operating activities, net	**(282)**	(228)	116
Changes in current assets and liabilities:			
Accounts receivable, net	**(235)**	98	255
Materials and supplies	**(32)**	19	(24)
Other current assets	**9**	22	(47)
Accounts payable and other current liabilities	**182**	232	(276)
Income and other taxes	**(51)**	374	(85)
Cash provided by operating activities	**7,230**	7,525	7,344
Investing Activities			
Capital investments	**(3,238)**	(3,505)	(4,650)
Proceeds from asset sales	**168**	129	251
Purchases of short-term investments (Note 14)	**(120)**	(580)	-
Maturities of short-term investments (Note 14)	**90**	520	-
Other investing activities, net	**14**	43	(77)
Cash used in investing activities	**(3,086)**	(3,393)	(4,476)
Financing Activities			
Common share repurchases (Note 19)	**(4,013)**	(3,105)	(3,465)
Debt issued	**2,735**	1,983	3,328
Dividends paid	**(1,982)**	(1,879)	(2,344)
Debt repaid	**(840)**	(1,013)	(556)
Debt exchange	**-**	(191)	-
Other financing activities, net	**(46)**	(41)	(26)
Cash used in financing activities	**(4,146)**	(4,246)	(3,063)
Net change in cash and cash equivalents	**(2)**	(114)	(195)
Cash and cash equivalents at beginning of year	**1,277**	1,391	1,586
Cash and cash equivalents at end of year	**$ 1,275**	$ 1,277	$ 1,391
Supplemental Cash Flow Information			
Non-cash investing and financing activities:			
Capital investments accrued but not yet paid	**$ 366**	$ 223	$ 100
Capital lease financings	**19**	-	13
Cash paid during the year for:			
Income taxes, net of refunds	**$ (2,112)**	$ (1,347)	$ (2,156)
Interest, net of amounts capitalized	**(666)**	(652)	(592)

The accompanying notes are an integral part of these Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN COMMON SHAREHOLDERS' EQUITY
Union Pacific Corporation and Subsidiary Companies

Millions	*Common Shares*	*Treasury Shares*	*Common Shares*	*Paid-in-Surplus*	*Retained Earnings*	*Treasury Stock*	*AOCI [a]*	*Total*
Balance at January 1, 2015	1,110.1	(226.7)	$ 2,775	$ 4,321	$ 27,367	$ (12,064)	$ (1,210)	$ 21,189
Net income			-	-	4,772	-	-	4,772
Other comprehensive income			-	-	-	-	15	15
Conversion, stock option exercises, forfeitures, and other	0.3	0.8	1	96	-	-	-	97
Share repurchases (Note 19)	-	(35.3)	-	-	-	(3,465)	-	(3,465)
Cash dividends declared ($2.20 per share)	-	-	-	-	(1,906)	-	-	(1,906)
Balance at December 31, 2015	1,110.4	(261.2)	$ 2,776	$ 4,417	$ 30,233	$ (15,529)	$ (1,195)	$ 20,702
Net income			-	-	4,233	-	-	4,233
Other comprehensive loss			-	-	-	-	(77)	(77)
Conversion, stock option exercises, forfeitures, and other	0.6	1.1	1	4	-	53	-	58
Share repurchases (Note 19)	-	(35.1)	-	-	-	(3,105)	-	(3,105)
Cash dividends declared ($2.255 per share)	-	-	-	-	(1,879)	-	-	(1,879)
Balance at December 31, 2016	1,111.0	(295.2)	$ 2,777	$ 4,421	$ 32,587	$ (18,581)	$ (1,272)	$ 19,932
Net income			-	-	10,712	-	-	10,712
Other comprehensive income			-	-	-	-	131	131
Conversion, stock option exercises, forfeitures, and other	0.4	1.1	1	55	-	20	-	76
Share repurchases (Note 19)	-	(36.4)	-	-	-	(4,013)	-	(4,013)
Cash dividends declared ($2.48 per share)	-	-	-	-	(1,982)	-	-	(1,982)
Balance at December 31, 2017	**1,111.4**	**(330.5)**	**$ 2,778**	**$ 4,476**	**$ 41,317**	**$ (22,574)**	**$ (1,141)**	**$ 24,856**

[a] AOCI = Accumulated Other Comprehensive Income/(Loss) (Note 10)

The accompanying notes are an integral part of these Consolidated Financial Statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
Union Pacific Corporation and Subsidiary Companies

For purposes of this report, unless the context otherwise requires, all references herein to the "Corporation", "Company", "UPC", "we", "us", and "our" mean Union Pacific Corporation and its subsidiaries, including Union Pacific Railroad Company, which will be separately referred to herein as "UPRR" or the "Railroad".

1. Nature of Operations

Operations and Segmentation – We are a Class I railroad operating in the U.S. Our network includes 32,122 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and Eastern U.S. gateways and providing several corridors to key Mexican gateways. We own 26,042 miles and operate on the remainder pursuant to trackage rights or leases. We serve the western two-thirds of the country and maintain coordinated schedules with other rail carriers for the handling of freight to and from the Atlantic Coast, the Pacific Coast, the Southeast, the Southwest, Canada, and Mexico. Export and import traffic is moved through Gulf Coast and Pacific Coast ports and across the Mexican and Canadian borders.

The Railroad, along with its subsidiaries and rail affiliates, is our one reportable operating segment. Although we provide and analyze revenue by commodity group, we treat the financial results of the Railroad as one segment due to the integrated nature of our rail network. The following table provides freight revenue by commodity group:

Millions	***2017***	*2016*	*2015*
Agricultural Products	**$ 3,685**	$ 3,625	$ 3,581
Automotive	**1,998**	2,000	2,154
Chemicals	**3,596**	3,474	3,543
Coal	**2,645**	2,440	3,237
Industrial Products	**4,078**	3,348	3,808
Intermodal	**3,835**	3,714	4,074
Total freight revenues	**$19,837**	$18,601	$20,397
Other revenues	**1,403**	1,340	1,416
Total operating revenues	**$21,240**	$19,941	$21,813

Although our revenues are principally derived from customers domiciled in the U.S., the ultimate points of origination or destination for some products we transport are outside the U.S. Each of our commodity groups includes revenue from shipments to and from Mexico. Included in the above table are freight revenues from our Mexico business which amounted to $2.3 billion in 2017, $2.2 billion in 2016, and $2.2 billion in 2015.

Basis of Presentation – The Consolidated Financial Statements are presented in accordance with accounting principles generally accepted in the U.S. (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

2. Significant Accounting Policies

Principles of Consolidation – The Consolidated Financial Statements include the accounts of Union Pacific Corporation and all of its subsidiaries. Investments in affiliated companies (20% to 50% owned) are accounted for using the equity method of accounting. All intercompany transactions are eliminated. We currently have no less than majority-owned investments that require consolidation under variable interest entity requirements.

Cash and Cash Equivalents – Cash equivalents consist of investments with original maturities of three months or less.

Accounts Receivable – Accounts receivable includes receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position.

Investments – Investments represent our investments in affiliated companies (20% to 50% owned) that are accounted for under the equity method of accounting and investments in companies (less than 20% owned) accounted for under the cost method of accounting. The results of operations for our equity method investments that are integral to our operations are recorded in operating expenses.

Materials and Supplies – Materials and supplies are carried at the lower of average cost or market.

Property and Depreciation – Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, yard and switching tracks, and electronic yards), for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. Under the group method of depreciation, no gain or loss is recognized when depreciable property is retired or replaced in the ordinary course of business.

Impairment of Long-lived Assets – We review long-lived assets, including identifiable intangibles, for impairment when events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If impairment indicators are present and the estimated future undiscounted cash flows are less than the carrying value of the long-lived assets, the carrying value is reduced to the estimated fair value as measured by the discounted cash flows.

Revenue Recognition – We recognize freight revenues as freight moves from origin to destination. The allocation of revenue between reporting periods is based on the relative transit time in each reporting period with expenses recognized as incurred. Other revenues, which include revenues earned by our subsidiaries, revenues from our commuter rail operations, and accessorial revenue, are recognized as service is performed or contractual obligations are met. Customer incentives, which are primarily provided for shipping a specified cumulative volume or shipping to/from specific locations, are recorded as a reduction to operating revenues based on actual or projected future customer shipments.

Translation of Foreign Currency – Our portion of the assets and liabilities related to foreign investments are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average rates of exchange prevailing during the year. Unrealized gains or losses are reflected within common shareholders' equity as accumulated other comprehensive income or loss.

Fair Value Measurements – We use a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The level in the fair value hierarchy within which the fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety. These levels include:

Level 1: Quoted market prices in active markets for identical assets or liabilities.
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3: Unobservable inputs that are not corroborated by market data.

We have applied fair value measurements to our short term investments, pension plan assets and short- and long-term debt.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as “retention awards”. We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

We measure and recognize compensation expense for all stock-based awards made to employees and directors, including stock options. Compensation expense is based on the calculated fair value of the awards as measured at the grant date and is expensed ratably over the service period of the awards (generally the vesting period). The fair value of retention awards is the closing stock price on the date of grant, while the fair value of stock options is determined by using the Black-Scholes option pricing model.

Earnings Per Share – Basic earnings per share are calculated on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options and stock-based awards where the conversion of such instruments would be dilutive.

Income Taxes – We account for income taxes by recording taxes payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. These expected future tax consequences are measured based on current tax law; the effects of future tax legislation are not anticipated. Future tax legislation, such as a change in the corporate tax rate, could have a material impact on our financial condition, results of operations, or liquidity.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized, based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset.

We recognize tax benefits that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

Pension and Postretirement Benefits – We incur certain employment-related expenses associated with pensions and postretirement health benefits. In order to measure the expense associated with these benefits, we must make various assumptions including discount rates used to value certain liabilities, expected return on plan assets used to fund these expenses, compensation increases, employee turnover rates, anticipated mortality rates, and expected future health care costs. The assumptions used by us are based on our historical experience as well as current facts and circumstances. We use an actuarial analysis to measure the expense and liability associated with these benefits.

Personal Injury – The cost of injuries to employees and others on our property is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability. Our personal injury liability is not discounted to present value. Legal fees and incidental costs are expensed as incurred.

Asbestos – We estimate a liability for asserted and unasserted asbestos-related claims based on an assessment of the number and value of those claims. We use a statistical analysis to assist us in properly measuring our potential liability. Our liability for asbestos-related claims is not discounted to present value due to the uncertainty surrounding the timing of future payments. Legal fees and incidental costs are expensed as incurred.

Environmental – When environmental issues have been identified with respect to property currently or formerly owned, leased, or otherwise used in the conduct of our business, we perform, with the assistance of our consultants, environmental assessments on such property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. We do not discount our environmental liabilities when the timing of the anticipated cash payments is not fixed or readily determinable. Legal fees and incidental costs are expensed as incurred.

Use of Estimates – The preparation of our Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported assets and liabilities, and the disclosure of certain contingent assets and liabilities as of the date of the consolidated financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual future results may differ from such estimates.

3. Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 (ASU 2014-09), *Revenue from Contracts with Customers (Topic 606)*. ASU 2014-09 supersedes the revenue recognition guidance in Topic 605, Revenue Recognition. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods and services to customers in an amount that reflects the consideration to which the entity expects to be entitled in the exchange for those goods or services. This may require the use of more judgment and estimates in order to correctly recognize the revenue expected as an outcome of each specific performance obligation. Additionally, this guidance will require the disclosure of the nature, amount, and timing of revenue arising from contracts so as to aid in the understanding of the users of financial statements.

This standard is effective for annual reporting periods beginning after December 15, 2017. The Company has analyzed our freight and other revenues and we expect to continue to recognize freight revenues as freight moves from origin to destination and to recognize other revenues as identified performance obligations are satisfied. We have also analyzed freight and other revenues in the context of the new guidance on principal versus agent considerations and evaluated the required new disclosures. Effective January 1, 2018, the Company adopted ASU 2014-09 using the modified retrospective transition method. The ASU did not have an impact on our consolidated financial position, results of operations, or cash flows.

In January 2016, the FASB issued Accounting Standards Update No. 2016-01 (ASU 2016-01), *Recognition and Measurement of Financial Assets and Financial Liabilities (Subtopic 825-10)*. ASU 2016-01 provides guidance for the recognition, measurement, presentation, and disclosure of financial instruments. This guidance is effective for annual and interim periods beginning after December 15, 2017, and early adoption is not permitted. ASU 2016-01 is not expected to have a material impact on our consolidated financial position, results of operations, or cash flows.

In March 2017, the FASB issued Accounting Standards Update No. 2017-07 (ASU 2017-07), *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (Topic 715)*. ASU 2017-07 requires the service cost component be reported separately from the other components of net benefit costs in the income statement, provides explicit guidance on the presentation of the service cost component and the other components of net benefit cost in the income statement, and allows only the service cost component of net benefit cost to be eligible for capitalization. This standard is effective for annual and interim reporting periods beginning after December 15, 2017, and we intend to adopt the standard beginning in 2018 using retrospective adoption. The Company currently records service costs and net benefit costs within compensation and benefits expense. Upon adoption, the service cost will be recorded within compensation and benefits expense, and the other components of net benefit costs, including $69 million related to the 2017 workforce reduction plan as described in Note 4, will be recorded in other income. The retrospective impact of future adoption is shown in the table below:

Millions		***2017***		*2016*		*2015*
Increase/ (decrease) in operating income	**$**	**45**	$	(29)	$	30
Increase/ (decrease) in other income		**(45)**		29		(30)

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), *Leases (Subtopic 842)*. ASU 2016-02 will require companies to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. For public companies, this standard is effective for annual reporting periods beginning after December 15, 2018, and early adoption is permitted. Management is currently evaluating the impact of this standard on our consolidated financial position, results of operations, and cash flows, and expects that the adoption will result in an increase in the Company's assets and liabilities of over $2 billion.

On December 22, 2017 the SEC staff issued Staff Accounting Bulletin 118 (SAB 118), which provides guidance on accounting for the tax effects of the Tax Cuts and Jobs Act (the "Tax Act"). SAB 118 provides a measurement period that should not extend beyond one year from the enactment date for companies to complete the accounting under Accounting Standards Codification (ASC) 740. In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company's accounting for certain income tax effects of the Tax Act is incomplete but for which they are able to determine a reasonable estimate, it must record a provisional amount in the financial statements. Provisional treatment is proper in light of anticipated additional guidance from various taxing authorities, the SEC, the FASB, and even the Joint Committee on Taxation. Provisional treatment is also necessary if the company is waiting for final financial information from domestic and foreign equity investments. If a company cannot determine a provisional amount to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

4. Workforce Reduction Plan

On August 16, 2017, the Company approved and commenced a management and administrative personnel reorganization plan (the "Plan") furthering its on-going efforts to increase efficiency and more effectively align Company resources. The Plan implemented productivity initiatives identified during a recently completed Company-wide organizational review that included the reduction of approximately 460 management positions and 250 agreement positions. The Plan resulted in a pretax charge recognized in the third quarter of 2017 within compensation and benefits expense in our Consolidated Statements of Income. This charge consisted of management employee termination benefits, including pension expenses, severance costs, and acceleration of equity compensation expense as shown in the table below. The actions associated with the Plan are substantially complete, and we do not expect to incur additional charges for the Plan in subsequent years.

Millions *for the Year Ended December 31, 2017*		*Compensation and Benefits Expense*
Pension	$	69
Severance		12
Equity Compensation		5
Total	$	86

5. Stock Options and Other Stock Plans

In April 2000, the shareholders approved the Union Pacific Corporation 2000 Directors Plan (Directors Plan) whereby 2,200,000 shares of our common stock were reserved for issuance to our non-employee directors. Under the Directors Plan, each non-employee director, upon his or her initial election to the Board of Directors, receives a grant of 4,000 retention shares or retention stock units. Prior to December 31, 2007, each non-employee director received annually an option to purchase at fair value a number of shares of our common stock, not to exceed 20,000 shares during any calendar year, determined by dividing 60,000 by 1/3 of the fair market value of one share of our common stock on the date of such Board of Directors meeting, with the resulting quotient rounded up or down to the nearest 50 shares. In September 2007, the Board of Directors eliminated the annual payment of options for 2008 and all future years. As of December 31, 2017, 44,000 restricted shares and no options were outstanding under the Directors Plan.

The Union Pacific Corporation 2004 Stock Incentive Plan (2004 Plan) was approved by shareholders in April 2004. The 2004 Plan reserved 84,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans that were outstanding on April 16, 2004, and became available for regrant pursuant to the terms of the 2004 Plan. Under the 2004 Plan, non-qualified options, stock appreciation rights, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2004 Plan. As of December 31, 2017, 1,557,350 options and 962 retention shares and stock units were outstanding under the 2004 Plan. We no longer grant any stock options or other stock or unit awards under this plan.

The Union Pacific Corporation 2013 Stock Incentive Plan (2013 Plan) was approved by shareholders in May 2013. The 2013 Plan reserved 78,000,000 shares of our common stock for issuance, plus any shares subject to awards made under previous plans as of February 28, 2013, that are subsequently cancelled, expired, forfeited or otherwise not issued under previous plans. Under the 2013 Plan, non-qualified options, incentive stock options, retention shares, stock units, and incentive bonus awards may be granted to eligible employees of the Corporation and its subsidiaries. Non-employee directors are not eligible for awards under the 2013 Plan. As of December 31, 2017, 4,072,514 options and 3,450,600 retention shares and stock units were outstanding under the 2013 Plan. Pursuant to the above plans 72,151,415; 73,745,250; and 76,548,520; shares of our common stock were authorized and available for grant at December 31, 2017, 2016, and 2015, respectively.

Stock-Based Compensation – We have several stock-based compensation plans under which employees and non-employee directors receive stock options, nonvested retention shares, and nonvested stock units. We refer to the nonvested shares and stock units collectively as “retention awards”. We have elected to issue treasury shares to cover option exercises and stock unit vestings, while new shares are issued when retention shares are granted.

Information regarding stock-based compensation appears in the table below:

Millions	***2017***	*2016*	*2015*
Stock-based compensation, before tax:			
Stock options	**$ 19**	$ 16	$ 17
Retention awards	**84**	66	81
Total stock-based compensation, before tax	**$ 103**	$ 82	$ 98
Excess tax benefits from equity compensation plans	**$ 44**	$ 28	$ 62

Stock Options – We estimate the fair value of our stock option awards using the Black-Scholes option pricing model. The table below shows the annual weighted-average assumptions used for valuation purposes:

Weighted-Average Assumptions	***2017***	*2016*	*2015*
Risk-free interest rate	**2.0%**	1.3%	1.3%
Dividend yield	**2.3%**	2.9%	1.8%
Expected life (years)	**5.3**	5.1	5.1
Volatility	**21.7%**	23.2%	23.4%
Weighted-average grant-date fair value of options granted	**$ 18.19**	$ 11.36	$ 22.30

The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant; the expected dividend yield is calculated as the ratio of dividends paid per share of common stock to the stock price on the date of grant; the expected life is based on historical and expected exercise behavior; and expected volatility is based on the historical volatility of our stock price over the expected life of the option.

A summary of stock option activity during 2017 is presented below:

	Options (thous.)	*Weighted-Average Exercise Price*	*Weighted-Average Remaining Contractual Term*	*Aggregate Intrinsic Value (millions)*
Outstanding at January 1, 2017	6,162	$73.13	5.9 yrs.	$ 205
Granted	1,086	107.30	N/A	N/A
Exercised	(1,448)	56.69	N/A	N/A
Forfeited or expired	(170)	92.18	N/A	N/A
Outstanding at December 31, 2017	5,630	$83.37	5.8 yrs.	$ 286
Vested or expected to vest at December 31, 2017	5,607	$83.25	5.8 yrs.	$ 285
Options exercisable at December 31, 2017	3,466	$75.96	4.2 yrs.	$ 201

Stock options are granted at the closing price on the date of grant, have ten-year contractual terms, and vest no later than three years from the date of grant. None of the stock options outstanding at December 31, 2017, are subject to performance or market-based vesting conditions.

At December 31, 2017, there was $19 million of unrecognized compensation expense related to nonvested stock options, which is expected to be recognized over a weighted-average period of 1.1 years. Additional information regarding stock option exercises appears in the following table:

Millions	***2017***	*2016*	*2015*

Intrinsic value of stock options exercised	**$**	**88**	$	52	$	50
Cash received from option exercises		**59**		39		27
Treasury shares repurchased for employee payroll taxes		**(18)**		(15)		(12)
Tax benefit realized from option exercises		**34**		20		19
Aggregate grant-date fair value of stock options vested		**20**		19		19

Retention Awards – The fair value of retention awards is based on the closing price of the stock on the grant date. Dividends and dividend equivalents are paid to participants during the vesting periods.

Changes in our retention awards during 2017 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2017	2,789	$ 84.68
Granted	575	107.51
Vested	(894)	70.91
Forfeited	(157)	94.01
Nonvested at December 31, 2017	2,313	$ 95.04

Retention awards are granted at no cost to the employee or non-employee director and vest over periods lasting up to four years. At December 31, 2017, there was $87 million of total unrecognized compensation expense related to nonvested retention awards, which is expected to be recognized over a weighted-average period of 1.6 years.

Performance Retention Awards – In February 2017, our Board of Directors approved performance stock unit grants. The basic terms of these performance stock units are identical to those granted in February 2016, except for different annual return on invested capital (ROIC) performance targets. The 2016 and 2017 plans also include the addition of relative operating income growth (OIG) as a modifier compared to the companies included in the S&P 500 Industrials Index. We define ROIC as net operating profit adjusted for interest expense (including interest on the present value of operating leases) and taxes on interest divided by average invested capital adjusted for the present value of operating leases. The modifier can be up to +/- 25% of the award earned based on the ROIC achieved.

Stock units awarded to selected employees under these grants are subject to continued employment for 37 months and the attainment of certain levels of ROIC, and for the 2016 and 2017 plans, modified for the relative OIG. We expense the fair value of the units that are probable of being earned based on our forecasted ROIC over the 3-year performance period, and with respect to the third year of the 2016 and 2017 plans, the relative OIG modifier. We measure the fair value of these performance stock units based upon the closing price of the underlying common stock as of the date of grant, reduced by the present value of estimated future dividends. Dividend equivalents are paid to participants only after the units are earned.

The assumptions used to calculate the present value of estimated future dividends related to the February 2017 grant were as follows:

	2017
Dividend per share per quarter	$ 0.605
Risk-free interest rate at date of grant	1.5%

Changes in our performance retention awards during 2017 were as follows:

	Shares (thous.)	*Weighted-Average Grant-Date Fair Value*
Nonvested at January 1, 2017	1,145	$ 86.23
Granted	461	101.38
Vested	(255)	83.06

Unearned	(110)	83.06
Forfeited	(103)	91.36
Nonvested at December 31, 2017	1,138	$ 92.92

At December 31, 2017, there was $39 million of total unrecognized compensation expense related to nonvested performance retention awards, which is expected to be recognized over a weighted-average period of 1.5 years. This expense is subject to achievement of the performance measures established for the performance stock unit grants.

6. Retirement Plans

Pension and Other Postretirement Benefits

Pension Plans – We provide defined benefit retirement income to eligible non-union employees through qualified and non-qualified (supplemental) pension plans. Qualified and non-qualified pension benefits are based on years of service and the highest compensation during the latest years of employment, with specific reductions made for early retirements. Non-union employees hired on or after January 1, 2018, are no longer eligible for pension benefits, but will be eligible for an enhanced 401(k) plan as described below in other retirement programs.

Other Postretirement Benefits (OPEB) – We provide medical and life insurance benefits for eligible retirees hired before January 1, 2004. These benefits are funded as medical claims and life insurance premiums are paid.

Funded Status

We are required by GAAP to separately recognize the overfunded or underfunded status of our pension and OPEB plans as an asset or liability. The funded status represents the difference between the projected benefit obligation (PBO) and the fair value of the plan assets. Our non-qualified (supplemental) pension plan is unfunded by design. The PBO of the pension plans is the present value of benefits earned to date by plan participants, including the effect of assumed future compensation increases. The PBO of the OPEB plan is equal to the accumulated benefit obligation, as the present value of the OPEB liabilities is not affected by compensation increases. Plan assets are measured at fair value. We use a December 31 measurement date for plan assets and obligations for all our retirement plans.

Changes in our PBO and plan assets were as follows for the years ended December 31:

Funded Status	*Pension*		*OPEB*	
Millions	***2017***	*2016*	***2017***	*2016*
Projected Benefit Obligation				
Projected benefit obligation at beginning of year	**$ 4,110**	$ 3,958	**$ 334**	$ 329
Service cost	**90**	84	**2**	1
Interest cost	**142**	143	**10**	11
Plan curtailment cost	**20**	-	**(1)**	-
Special termination cost	**49**	-	**-**	-
Actuarial loss	**382**	124	**7**	16
Gross benefits paid	**(264)**	(199)	**(22)**	(23)
Projected benefit obligation at end of year	**$ 4,529**	$ 4,110	**$ 330**	$ 334
Plan Assets				
Fair value of plan assets at beginning of year	**$ 3,748**	$ 3,544	**$ -**	$ -
Actual return on plan assets	**716**	279	**-**	-
Voluntary funded pension plan contributions	**-**	100	**-**	-
Non-qualified plan benefit contributions	**24**	24	**22**	23
Gross benefits paid	**(264)**	(199)	**(22)**	(23)
Fair value of plan assets at end of year	**$ 4,224**	$ 3,748	**$ -**	$ -
Funded status at end of year	**$ (305)**	$ (362)	**$ (330)**	$ (334)

Amounts recognized in the statement of financial position as of December 31, 2017, and 2016 consist of:

	Pension		OPEB	
Millions	***2017***	*2016*	***2017***	*2016*
Noncurrent assets	**$ 196**	$ 67	**$ -**	$ -
Current liabilities	**(27)**	(24)	**(23)**	(24)
Noncurrent liabilities	**(474)**	(405)	**(307)**	(310)
Net amounts recognized at end of year	**$ (305)**	$ (362)	**$ (330)**	$ (334)

Pre-tax amounts recognized in accumulated other comprehensive income/(loss) as of December 31, 2017, and 2016 consist of:

	2017			2016		
Millions	***Pension***	***OPEB***	***Total***	*Pension*	*OPEB*	*Total*
Prior service cost	**$ -**	**$ (1)**	**$ (1)**	$ -	$ (2)	$ (2)
Net actuarial loss	**(1,533)**	**(120)**	**(1,653)**	(1,681)	(123)	(1,804)
Total	**$(1,533)**	**$ (121)**	**$(1,654)**	$(1,681)	$ (125)	$(1,806)

Pre-tax changes recognized in other comprehensive income/(loss) during 2017, 2016, and 2015 were as follows:

	Pension			*OPEB*		
Millions	***2017***	*2016*	*2015*	***2017***	*2016*	*2015*
Net actuarial (loss)/gain	**$ 67**	$ (112)	$ (31)	**$ (6)**	$ (16)	$ 18
Amortization of:						
Prior service cost/(credit)	**-**	-	-	**1**	(9)	(10)
Actuarial loss	**81**	83	106	**9**	10	13
Total	**$ 148**	$ (29)	$ 75	**$ 4**	$ (15)	$ 21

Amounts included in accumulated other comprehensive income/(loss) expected to be amortized into net periodic cost during 2018:

Millions	*Pension*	*OPEB*	*Total*
Prior service credit	$ -	$ (1)	$ (1)
Net actuarial loss	(90)	(9)	(99)
Total	$ (90)	$ (10)	$ (100)

Underfunded Accumulated Benefit Obligation – The accumulated benefit obligation (ABO) is the present value of benefits earned to date, assuming no future compensation growth. The underfunded accumulated benefit obligation represents the difference between the ABO and the fair value of plan assets. At December 31, 2017, and 2016, the non-qualified (supplemental) plan ABO was $481 million and $412 million, respectively. The following table discloses only the PBO, ABO, and fair value of plan assets for pension plans where the accumulated benefit obligation is in excess of the fair value of the plan assets as of December 31:

Underfunded Accumulated Benefit Obligation		
Millions	***2017***	*2016*
Projected benefit obligation	**$ 501**	$ 428
Accumulated benefit obligation	**$ 481**	$ 412
Fair value of plan assets	**-**	-
Underfunded accumulated benefit obligation	**$ (481)**	$ (412)

The ABO for all defined benefit pension plans was $4.2 billion and $3.9 billion at December 31, 2017, and 2016, respectively.

Assumptions – The weighted-average actuarial assumptions used to determine benefit obligations at December 31:

	Pension		*OPEB*	
Percentages	***2017***	*2016*	***2017***	*2016*
Discount rate	**3.62%**	4.20%	**3.53%**	4.00%
Compensation increase	**4.20%**	4.20%	**N/A**	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	**6.09%**	6.31%
Ultimate health care cost trend rate	**N/A**	N/A	**4.50%**	4.50%
Year ultimate trend rate reached	**N/A**	N/A	**2038**	2038

Expense

Both pension and OPEB expense are determined based upon the annual service cost of benefits (the actuarial cost of benefits earned during a period) and the interest cost on those liabilities, less the expected return on plan assets. The expected long-term rate of return on plan assets is applied to a calculated value of plan assets that recognizes changes in fair value over a five-year period. This practice is intended to reduce year-to-year volatility in pension expense, but it can have the effect of delaying the recognition of differences between actual returns on assets and expected returns based on long-term rate of return assumptions. Differences in actual experience in relation to assumptions are not recognized in net income immediately, but are deferred in accumulated other comprehensive income and, if necessary, amortized as pension or OPEB expense.

The workforce reduction plan initiated in the third quarter of 2017 included a curtailment loss of $20 million and a special termination benefit of $49 million as a result of a remeasurement as of September 30, 2017, due to the eliminated future service for approximately 460 management employees. These amounts were recognized in 2017 within compensation and benefits expense in our Consolidated Statements of Income. In connection with this remeasurement, the Company also updated the pension effective discount rate assumption from 4.20% to 3.81%.

The components of our net periodic pension and OPEB cost were as follows for the years ended December 31:

	Pension			*OPEB*		
Millions	***2017***	*2016*	*2015*	***2017***	*2016*	*2015*
Net Periodic Benefit Cost:						
Service cost	**$ 90**	$ 84	$ 106	**$ 2**	$ 1	$ 3
Interest cost	**142**	143	163	**10**	11	13
Expected return on plan assets	**(267)**	(267)	(255)	-	-	-
Plan curtailment cost	**20**	-	-	-	-	-
Special termination cost	**49**	-	-	-	-	-
Amortization of:						
Prior service cost/ (credit)	**-**	-	-	**1**	(9)	(10)
Actuarial loss	**81**	83	106	**9**	10	13
Net periodic benefit cost	**$ 115**	$ 43	$ 120	**$ 22**	$ 13	$ 19

Assumptions – The weighted-average actuarial assumptions used to determine expense were as follows:

	Pension			*OPEB*		
Percentages	***2017***	*2016*	*2015*	***2017***	*2016*	*2015*
Discount rate for benefit obligations	**4.09%**	4.37%	3.94%	**3.89%**	4.13%	3.74%
Discount rate for interest on benefit obligations	**3.47%**	3.65%	3.94%	**3.25%**	3.34%	3.74%
Discount rate for service cost	**4.41%**	4.69%	3.94%	**4.25%**	4.59%	3.74%
Discount rate for interest on service cost	**4.27%**	4.55%	3.94%	**4.11%**	4.44%	3.74%
Expected return on plan assets	**7.00%**	7.50%	7.50%	**N/A**	N/A	N/A
Compensation increase	**4.13%**	4.20%	4.00%	**N/A**	N/A	N/A
Health care cost trend rate (employees under 65)	**N/A**	N/A	N/A	**6.31%**	6.52%	6.34%
Ultimate health care cost trend rate	**N/A**	N/A	N/A	**4.50%**	4.50%	4.50%
Year ultimate trend reached	**N/A**	N/A	N/A	**2038**	2038	2028

Beginning in 2016, we measure the service cost and interest cost components of our net periodic benefit cost by using individual spot discount rates matched with separate cash flows for each future year. The discount rates were based on a yield curve of high quality corporate bonds. The expected return on plan assets is based on our asset allocation mix and our historical return, taking into account current and expected market conditions. The actual return/(loss) on pension plan assets, net of fees, was approximately 19% in 2017, 8% in 2016, and (1)% in 2015.

Assumed health care cost trend rates have an effect on the expense and liabilities reported for health care plans. The assumed health care cost trend rate is based on historical rates and expected market conditions. The 2018 assumed health care cost trend rate for employees under 65 is 6.09%. It is assumed the rate will decrease gradually to an ultimate rate of 4.5% in 2038 and will remain at that level. A one-percentage point change in the assumed health care cost trend rates would have the following effects on OPEB:

Millions	*One % pt. Increase*	*One % pt. Decrease*
Effect on total service and interest cost components	$ 1	$ (1)
Effect on accumulated benefit obligation	19	(16)

Cash Contributions

The following table details our cash contributions for the qualified pension plans and the benefit payments for the non-qualified (supplemental) pension and OPEB plans:

	Pension		
Millions	*Qualified*	*Non-qualified*	*OPEB*
2017	$ -	$ 24	$ 22
2016	100	24	23

Our policy with respect to funding the qualified plans is to fund at least the minimum required by law and not more than the maximum amount deductible for tax purposes. All contributions made to the qualified pension plans were voluntary and were made with cash generated from operations.

The non-qualified pension and OPEB plans are not funded and are not subject to any minimum regulatory funding requirements. Benefit payments for each year represent supplemental pension payments and claims paid for medical and life insurance. We anticipate our 2018 supplemental pension and OPEB payments will be made from cash generated from operations.

Benefit Payments

The following table details expected benefit payments for the years 2018 through 2027:

Millions	*Pension*	*OPEB*
2018	$ 212	$ 23
2019	212	22
2020	211	22
2021	212	21
2022	213	20
Years 2023 - 2027	1,101	90

Asset Allocation Strategy

Our pension plan asset allocation at December 31, 2017, and 2016, and target allocation for 2018, are as follows:

	Target Allocation 2018	*Percentage of Plan Assets December 31,*	
		2017	*2016*
Equity securities	60% to 70%	**69%**	68%
Debt securities	20% to 30%	**22**	21
Real estate	2% to 8%	**5**	6
Commodities	4% to 6%	**4**	5
Total		**100%**	100%

The investment strategy for pension plan assets is to maintain a broadly diversified portfolio designed to achieve our target average long-term rate of return of 7.0%. While we believe we can achieve a long-term average rate of return of 7.0%, we cannot be certain that the portfolio will perform to our expectations. Assets are strategically allocated among equity, debt, and other investments in order to achieve a diversification level that reduces fluctuations in investment returns. Asset allocation target ranges for equity, debt, and other portfolios are evaluated at least every three years with the assistance of an independent consulting firm. Actual asset allocations are monitored monthly, and rebalancing actions are executed at least quarterly, as needed.

The pension plan investments are held in a Master Trust. The majority of pension plan assets are invested in equity securities because equity portfolios have historically provided higher returns than debt and other asset classes over extended time horizons and are expected to do so in the future. Correspondingly, equity investments also entail greater risks than other investments. Equity risks are balanced by investing a significant portion of the plans' assets in high quality debt securities. The average credit rating of the debt portfolio exceeded A at both December 31, 2017 and December 31, 2016. The debt portfolio is also broadly diversified and invested primarily in U.S. Treasury, mortgage, and corporate securities. The weighted-average maturity of the debt portfolio was 13 years and 14 years at December 31, 2017, and 2016, respectively.

The investment of pension plan assets in securities issued by UPC is explicitly prohibited by the plan for both the equity and debt portfolios, other than through index fund holdings.

Fair Value Measurements

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Temporary Cash Investments – These investments consist of U.S. dollars and foreign currencies held in master trust accounts at The Northern Trust Company (the Trustee). Foreign currencies held are reported in terms of U.S. dollars based on currency exchange rates readily available in active markets. These temporary cash investments are classified as Level 1 investments.

Registered Investment Companies – Registered Investment Companies are entities primarily engaged in the business of investing in securities and are registered with the Securities and Exchange Commission. The Plan's holdings of Registered Investment Companies include both public and private fund vehicles. The public vehicles are mutual funds (real estate) and exchange-traded funds (stocks), which are classified as Level 1 investments. The private vehicles (bonds) do not have published pricing and are valued using Net Asset Value (NAV).

Federal Government Securities – Federal Government Securities consist of bills, notes, bonds, and other fixed income securities issued directly by the U.S. Treasury or by government-sponsored enterprises. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Federal Government Securities are classified as Level 2 investments.

Bonds and Debentures – Bonds and debentures consist of debt securities issued by U.S. and non-U.S. corporations as well as state and local governments. These assets are valued using a bid evaluation process with bid data provided by independent pricing sources. Corporate, state, and municipal bonds and debentures are classified as Level 2 investments.

Corporate Stock – This investment category consists of common and preferred stock issued by U.S. and non-U.S. corporations. Most common shares are traded actively on exchanges and price quotes for these shares are readily available. Common stock is classified as a Level 1 investment. Preferred shares included in this category are valued using a bid evaluation process with bid data provided by independent pricing sources. Preferred stock is classified as a Level 2 investment.

Venture Capital and Buyout Partnerships – This investment category is comprised of interests in limited partnerships that invest primarily in privately-held companies. Due to the private nature of the partnership investments, pricing inputs are not readily observable. Asset valuations are developed by the general partners that manage the partnerships. These valuations are based on the application of public market multiples to private company cash flows, market transactions that provide valuation information for comparable companies, and other methods. The fair value recorded by the Plan is calculated using each partnership's NAV.

Real Estate Partnerships – Most of the Plan's real estate investments are primarily interests in private real estate investment trusts, partnerships, limited liability companies, and similar structures. Valuations for the holdings in this category are not based on readily observable inputs and are primarily derived from property appraisals. The fair value recorded by the Plan is calculated using the NAV for each investment.

Collective Trust and Other Funds – Collective trust and other funds are comprised of shares or units in commingled funds and limited liability companies that are not publicly traded. The underlying assets in these entities (U.S. stock funds, non-U.S. stock funds, commodity funds, hedge funds, and short term investment funds) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. The fair value recorded by the Plan is calculated using NAV for each investment.

As of December 31, 2017, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 27	$	$ -	$ 27
Registered investment companies [a]	4		-	4
Federal government securities		182	-	182
Bonds and debentures		389	-	389
Corporate stock	1,171	8	-	1,179
Total plan assets at fair value	$1,202	$ 579	$ -	$1,781
Plan assets at NAV:				
Registered investment companies [b]				329
Venture capital and buyout partnerships				358
Real estate partnerships				226
Collective trust and other funds				1,552
Total plan assets at NAV				$2,465
Other assets [c]				(22)
Total plan assets				$4,224

[a] *Registered investment companies measured at fair value include stock investments.*

[b] *Registered investment companies measured at NAV include bond investments.*

[c] *Other assets include accrued receivables, net payables, and pending broker settlements.*

As of December 31, 2016, the pension plan assets measured at fair value on a recurring basis were as follows:

Millions	*Quoted Prices in Active Markets for Identical Inputs (Level 1)*	*Significant Other Observable Inputs (Level 2)*	*Significant Unobservable Inputs (Level 3)*	*Total*
Plan assets at fair value:				
Temporary cash investments	$ 27	$ -	$ -	$ 27
Registered investment companies [a]	17	-	-	17
Federal government securities	-	142	-	142
Bonds and debentures	-	357	-	357
Corporate stock	1,059	8	-	1,067
Total plan assets at fair value	$1,103	$ 507	$ -	$1,610
Plan assets at NAV:				
Registered investment companies [b]				280
Venture capital and buyout partnerships				283
Real estate partnerships				212

Collective trust and other funds	1,346
Total plan assets at NAV	$2,121
Other assets [c]	17
Total plan assets	$3,748

[a] *Registered investment companies measured at fair value include stock and real estate investments.*

[b] *Registered investment companies measured at NAV include bond investments.*

[c] *Other assets include accrued receivables and pending broker settlements.*

For the years ended December 31, 2017 and 2016, there were no significant transfers in or out of Levels 1, 2, or 3.

The Master Trust's investments in limited partnerships and similar structures (used to invest in private equity and real estate) are valued at fair value based on their proportionate share of the partnerships' fair value as recorded in the limited partnerships' audited financial statements. The limited partnerships allocate gains, losses and expenses to the partners based on the ownership percentage as described in the partnership agreements. At December 31, 2017 and 2016, the Master Trust had future commitments for additional contributions to private equity partnerships totaling $359 million and $392 million, respectively, and to real estate partnerships and funds totaling $67 million and $32 million, respectively.

Other Retirement Programs

401(k)/Thrift Plan – For non-union employees hired prior to January 1, 2018, and eligible union employees for whom we make matching contributions, we provide a defined contribution plan (401(k)/thrift plan). We match 50 cents for each dollar contributed by employees up to the first 6% of compensation contributed. Our plan contributions were $19 million in 2017, $19 million in 2016, and $20 million in 2015. For non-union employees hired on or after January 1, 2018, we will match dollar-for-dollar, up to the first 6% of compensation contributed, in addition to contributing an annual amount of 3% of the employee's annual base salary.

Railroad Retirement System – All Railroad employees are covered by the Railroad Retirement System (the System). Contributions made to the System are expensed as incurred and amounted to approximately $672 million in 2017, $671 million in 2016, and $749 million in 2015.

Collective Bargaining Agreements – Under collective bargaining agreements, we participate in multi-employer benefit plans that provide certain postretirement health care and life insurance benefits for eligible union employees. Premiums paid under these plans are expensed as incurred and amounted to $60 million in 2017, $50 million in 2016, and $46 million in 2015.

7. Other Income

Other income included the following for the years ended December 31:

Millions	***2017***	*2016*	*2015*
Rental income [a]	**$ 178**	$ 96	$ 96
Net gain on non-operating asset dispositions [b] [c]	**111**	94	144
Interest income	**16**	11	5
Non-operating environmental costs and other	**(15)**	(9)	(19)
Total	**$ 290**	$ 192	$ 226

[a] 2017 includes $65 million related to a favorable litigation settlement.

[b] 2017 includes $26 million and $57 million related to a real estate sale in the first quarter and in the third quarter, respectively.

[c] 2016 includes $17 million and $50 million related to a real estate sale in the first quarter and second quarter, respectively.

8. Income Taxes

Components of income tax expense were as follows for the years ended December 31:

Millions	***2017***	*2016*	*2015*
Current tax expense:			
Federal	**$ 1,750**	$ 1,518	$ 1,901
State	**235**	176	210
Foreign	**2**	8	8
Total current tax expense	**1,987**	1,702	2,119
Deferred and other tax expense:			
Federal	**(5,260)**	692	644
State	**183**	139	121
Foreign	**10**	-	-
Total deferred and other tax expense [a]	**(5,067)**	831	765
Total income tax expense	**$ (3,080)**	$ 2,533	$ 2,884

[a] *2017 includes a $(5,935) million adjustment to income tax expense resulting from the Tax Cuts and Jobs Act. Of this amount, $(5,965) million is a federal income tax benefit and $30 million is a state income tax expense.*

For the years ended December 31, reconciliations between statutory and effective tax rates are as follows:

Tax Rate Percentages	***2017***	*2016*	*2015*
Federal statutory tax rate	**35.0 %**	35.0 %	35.0 %
State statutory rates, net of federal benefits	**3.1**	3.1	3.1
Adjustment for Tax Cuts and Jobs Act	**(77.8)**	-	-
Other deferred tax adjustments	**0.4**	-	-
Tax credits	**0.1**	(0.5)	(0.5)
Other	**(1.2)**	(0.2)	0.1
Effective tax rate	**(40.4)%**	37.4 %	37.7 %

Deferred tax assets and liabilities are recorded for the expected future tax consequences of events that are reported in different periods for financial reporting and income tax purposes. The majority of our deferred tax assets relate to deductions that already have been claimed for financial reporting purposes but not for tax purposes. The majority of our deferred tax liabilities relate to differences between the tax bases and financial reporting amounts of our land and depreciable property, due to accelerated tax depreciation (including bonus depreciation), revaluation of assets in purchase accounting transactions, and differences in capitalization methods.

The Tax Cuts and Jobs Act (the "Tax Act") was enacted on December 22, 2017. The Tax Act made significant changes to federal tax law, including a reduction in the federal income tax rate from 35% to 21% effective January 1, 2018, 100% bonus depreciation for certain capital expenditures, stricter limits on deductions for interest and certain executive compensation, and a one-time transition tax on previously deferred earnings of certain foreign subsidiaries. As a result of our initial analysis of the Tax Act and existing implementation guidance, we remeasured our deferred tax assets and liabilities and computed our transition tax liability net of offsetting foreign tax credits. This resulted in a $5.9 billion reduction in our income tax expense in 2017. We also recorded a $212 million reduction to our operating expense related to income tax adjustments at equity-method affiliates.

The SEC provided guidance in SAB 118 on accounting for the tax effects of the Tax Act (See Note 3). In accordance with that guidance, some of the income tax effects recorded in 2017 are provisional, including those related to our analysis of 100% bonus depreciation for certain capital expenditures, stricter limits on deductions for certain executive compensation, the one-time transition tax, and the reduction to our operating expense related to income tax adjustments at equity-method affiliates. The accounting for these income tax effects may be adjusted during 2018 as a result of continuing analysis of the Tax Act; additional implementation guidance from the IRS, state tax authorities, the SEC, the FASB, or the Joint Committee on Taxation; and new information from domestic or foreign equity affiliates.

On July 6, 2017, the State of Illinois increased its corporate income tax rate effective July 1, 2017. In the third quarter of 2017, we increased our deferred tax expense by $33 million to reflect the increased tax rate.

Deferred income tax (liabilities)/assets were comprised of the following at December 31:

Millions	***2017[a]***	*2016*
Deferred income tax liabilities:		
Property	**$ (11,262)**	$ (16,687)
Other	**(197)**	(346)
Total deferred income tax liabilities	**(11,459)**	(17,033)
Deferred income tax assets:		
Accrued wages	**46**	75
Accrued casualty costs	**147**	231
Stock compensation	**46**	69
Retiree benefits	**141**	222
Credits	**1**	145
Other	**142**	295
Total deferred income tax assets	**$ 523**	$ 1,037
Net deferred income tax liability	**$ (10,936)**	$ (15,996)

[a] 2017 amounts reflect the provisional impact of the Tax Act.

When appropriate, we record a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, we consider whether it is more likely than not that all or some portion of our deferred tax assets will not be realized based on management's judgments using available evidence for purposes of estimating whether future taxable income will be sufficient to realize a deferred tax asset. In 2017 and 2016, there were no valuation allowances.

Tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

A reconciliation of changes in unrecognized tax benefits liabilities/(assets) from the beginning to the end of the reporting period is as follows:

Millions	***2017***	*2016*	*2015*
Unrecognized tax benefits at January 1	**$ 125**	$ 94	$ 151
Increases for positions taken in current year	**38**	31	38
Increases for positions taken in prior years	**51**	10	13
Decreases for positions taken in prior years	**(56)**	(20)	(87)
Refunds from/(payments to) and settlements with taxing authorities	**64**	4	(13)
Increases/(decreases) for interest and penalties	**-**	6	(5)
Lapse of statutes of limitations	**(43)**	-	(3)
Unrecognized tax benefits at December 31	**$ 179**	$ 125	$ 94

We recognize interest and penalties as part of income tax expense. Total accrued liabilities for interest and penalties were $8 million at both December 31, 2017, and 2016. Total interest and penalties recognized as part of income tax expense (benefit) were $(3) million for 2017, $5 million for 2016, and $(3) million for 2015.

The statute of limitations has run for all years prior to 2014 and UPC is not currently under examination by the Internal Revenue Service (IRS) for any of its open years. In 2017, UPC amended its 2013 income tax returns, primarily to claim deductions resulting from the resolution of prior year IRS examinations. We have not received any communication from the IRS related to these amended returns.

In 2016, UPC amended its 2011 and 2012 income tax returns to claim deductions resulting from the resolution of IRS examinations for years prior to 2011. The IRS and Joint Committee on Taxation reviewed these amended returns. In the third quarter of 2017, we received a refund of $62 million, consisting of $60 million of tax and $2 million of interest.

In the third quarter of 2015, UPC and the IRS signed a closing agreement resolving all tax matters for tax years 2009-2010. The settlement had an immaterial effect on our income tax expense. In connection with the settlement, UPC paid $10 million in the fourth quarter of 2015.

Several state tax authorities are examining our state income tax returns for years 2010 through 2015.

We do not expect our unrecognized tax benefits to change significantly in the next 12 months.

The portion of our unrecognized tax benefits that relates to permanent changes in tax and interest would reduce our effective tax rate, if recognized. The remaining unrecognized tax benefits relate to tax positions for which only the timing of the benefit is uncertain. Recognition of the tax benefits with uncertain timing would reduce our effective tax rate only through a reduction of accrued interest and penalties. The unrecognized tax benefits that would reduce our effective tax rate are as follows:

Millions	***2017***	*2016*	*2015*
Unrecognized tax benefits that would reduce the effective tax rate	**$ 83**	$ 31	$ 31
Unrecognized tax benefits that would not reduce the effective tax rate	**96**	94	63
Total unrecognized tax benefits	**$ 179**	$ 125	$ 94

9. Earnings Per Share

The following table provides a reconciliation between basic and diluted earnings per share for the years ended December 31:

Millions, Except Per Share Amounts	***2017***	*2016*	*2015*
Net income	**$10,712**	$ 4,233	$ 4,772
Weighted-average number of shares outstanding:			
Basic	**798.4**	832.4	866.2
Dilutive effect of stock options	**1.8**	1.5	1.5
Dilutive effect of retention shares and units	**1.5**	1.5	1.7
Diluted	**801.7**	835.4	869.4
Earnings per share – basic	**$ 13.42**	$ 5.09	$ 5.51
Earnings per share – diluted	**$ 13.36**	$ 5.07	$ 5.49

Common stock options totaling 1.6 million, 2.0 million, and 1.1 million for 2017, 2016, and 2015, respectively, were excluded from the computation of diluted earnings per share because the exercise prices of these options exceeded the average market price of our common stock for the respective periods, and the effect of their inclusion would be anti-dilutive.

10. Accumulated Other Comprehensive Income/(Loss)

Reclassifications out of accumulated other comprehensive income/(loss) were as follows (net of tax):

Millions	*Defined benefit plans*	*Foreign currency translation*	*Total*
Balance at January 1, 2017	$ (1,132)	$ (140)	$ (1,272)
Other comprehensive income/(loss) before reclassifications	2	28	30
Amounts reclassified from accumulated other comprehensive income/(loss) [a]	101	-	101
Net year-to-date other comprehensive income/(loss), net of taxes of $(61) million	103	28	131
Balance at December 31, 2017	$ (1,029)	$ (112)	$ (1,141)
Balance at January 1, 2016	$ (1,103)	$ (92)	$ (1,195)
Other comprehensive income/(loss) before reclassifications	(3)	(48)	(51)
Amounts reclassified from accumulated other comprehensive income/(loss) [a]	(26)	-	(26)
Net year-to-date other comprehensive income/(loss), net of taxes of $49 million	(29)	(48)	(77)
Balance at December 31, 2016	$ (1,132)	$ (140)	$ (1,272)

[a] The accumulated other comprehensive income/(loss) reclassification components are 1) prior service cost/(benefit) and 2) net actuarial loss which are both included in the computation of net periodic pension cost. See Note 6 Retirement Plans for additional details.

11. Accounts Receivable

Accounts receivable includes freight and other receivables reduced by an allowance for doubtful accounts. The allowance is based upon historical losses, credit worthiness of customers, and current economic conditions. At December 31, 2017, and 2016, our accounts receivable were reduced by $3 million and $5 million, respectively. Receivables not expected to be collected in one year and the associated allowances are classified as other assets in our Consolidated Statements of Financial Position. At both December 31, 2017, and 2016, receivables classified as other assets were reduced by allowances of $17 million.

Receivables Securitization Facility – The Railroad maintains a $650 million, 3-year receivables securitization facility (the Receivables Facility), maturing in July 2019. Under the Receivables Facility, the Railroad sells most of its eligible third-party receivables to Union

Pacific Receivables, Inc. (UPRI), a consolidated, wholly-owned, bankruptcy-remote subsidiary that may subsequently transfer, without recourse, an undivided interest in accounts receivable to investors. The investors have no recourse to the Railroad’s other assets except for customary warranty and indemnity claims. Creditors of the Railroad do not have recourse to the assets of UPRI.

The amount outstanding under the Receivables Facility was $500 million and $0 at December 31, 2017, and December 31, 2016. The Receivables Facility was supported by $1.1 billion and $1.0 billion of accounts receivable as collateral at December 31, 2017, and December 31, 2016, respectively, which, as a retained interest, is included in accounts receivable, net in our Consolidated Statements of Financial Position.

The outstanding amount the Railroad is allowed to maintain under the Receivables Facility, with a maximum of $650 million, may fluctuate based on the availability of eligible receivables and is directly affected by business volumes and credit risks, including receivables payment quality measures such as default and dilution ratios. If default or dilution ratios increase one percent, the allowable outstanding amount under the Receivables Facility would not materially change.

The costs of the Receivables Facility include interest, which will vary based on prevailing benchmark and commercial paper rates, program fees paid to participating banks, commercial paper issuance costs, and fees of participating banks for unused commitment availability. The costs of the Receivables Facility are included in interest expense and were $6 million, $7 million, and $5 million for 2017, 2016, and 2015, respectively.

12. Properties

The following tables list the major categories of property and equipment, as well as the weighted-average estimated useful life for each category (in years):

Millions, Except Estimated Useful Life As of December 31, 2017	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,258	$ N/A	$ 5,258	N/A
Road:				
Rail and other track material	16,327	5,929	10,398	43
Ties	10,132	2,881	7,251	33
Ballast	5,406	1,509	3,897	34
Other roadway [a]	18,972	3,482	15,490	47
Total road	50,837	13,801	37,036	N/A
Equipment:				
Locomotives	9,686	3,697	5,989	19
Freight cars	2,255	983	1,272	24
Work equipment and other	936	267	669	19
Total equipment	12,877	4,947	7,930	N/A
Technology and other	1,105	460	645	11
Construction in progress	736	-	736	N/A
Total	$70,813	$19,208	$51,605	N/A

Millions, Except Estimated Useful Life As of December 31, 2016	*Cost*	*Accumulated Depreciation*	*Net Book Value*	*Estimated Useful Life*
Land	$ 5,220	$ N/A	$ 5,220	N/A
Road:				
Rail and other track material	15,845	5,722	10,123	40
Ties	9,812	2,736	7,076	33
Ballast	5,242	1,430	3,812	34
Other roadway [a]	18,138	3,226	14,912	47
Total road	49,037	13,114	35,923	N/A
Equipment:				
Locomotives	9,692	3,939	5,753	20
Freight cars	2,243	972	1,271	24
Work equipment and other	905	232	673	19
Total equipment	12,840	5,143	7,697	N/A
Technology and other	974	412	562	11
Construction in progress	987	-	987	N/A
Total	$69,058	$18,669	$50,389	N/A

[a] Other roadway includes grading, bridges and tunnels, signals, buildings, and other road assets.

Property and Depreciation – Our railroad operations are highly capital intensive, and our large base of homogeneous, network-type assets turns over on a continuous basis. Each year we develop a capital program for the replacement of assets and for the acquisition or construction of assets that enable us to enhance our operations or provide new service offerings to customers. Assets purchased or constructed throughout the year are capitalized if they meet applicable minimum units of property criteria. Properties and equipment are carried at cost and are depreciated on a straight-line basis over their estimated service lives, which are measured in years, except for rail in high-density traffic corridors (i.e., all rail lines except for those subject to abandonment, yard and switching tracks, and electronic yards) for which lives are measured in millions of gross tons per mile of track. We use the group method of depreciation in which all items with similar characteristics, use, and expected lives are grouped together in asset classes, and are depreciated using composite depreciation rates. The group method of depreciation treats each asset class as a pool of resources, not as singular items. We currently have more than 60 depreciable asset classes, and we may increase or decrease the number of asset classes due to changes in technology, asset strategies, or other factors.

We determine the estimated service lives of depreciable railroad assets by means of depreciation studies. We perform depreciation studies at least every three years for equipment and every six years for track assets (i.e., rail and other track material, ties, and ballast) and other road property. Our depreciation studies take into account the following factors:

- Statistical analysis of historical patterns of use and retirements of each of our asset classes;
- Evaluation of any expected changes in current operations and the outlook for continued use of the assets;
- Evaluation of technological advances and changes to maintenance practices; and
- Expected salvage to be received upon retirement.

For rail in high-density traffic corridors, we measure estimated service lives in millions of gross tons per mile of track. It has been our experience that the lives of rail in high-density traffic corridors are closely correlated to usage (i.e., the amount of weight carried over the rail). The service lives also vary based on rail weight, rail condition (e.g., new or secondhand), and rail type (e.g., straight or curve). Our depreciation studies for rail in high-density traffic corridors consider each of these factors in determining the estimated service lives. For rail in high-density traffic corridors, we calculate depreciation rates annually by dividing the number of gross ton-miles carried over the rail (i.e., the weight of loaded and empty freight cars, locomotives and maintenance of way equipment transported over the rail) by the estimated service lives of the rail measured in millions of gross tons per mile. For all other depreciable assets, we compute depreciation based on the estimated service lives of our assets as determined from the analysis of our depreciation studies. Changes in the estimated service lives of our assets and their related depreciation rates are implemented prospectively.

Under group depreciation, the historical cost (net of salvage) of depreciable property that is retired or replaced in the ordinary course of business is charged to accumulated depreciation and no gain or loss is recognized. The historical cost of certain track assets is estimated by multiplying the current replacement cost of track assets by a historical index factor derived from (i) inflation indices published by the Bureau of Labor Statistics and (ii) the estimated useful lives of the assets as determined by our depreciation studies. The indices were selected because they closely correlate with the major costs of the properties comprising the applicable track asset classes. Because of the number of estimates inherent in the depreciation and retirement processes and because it is impossible to precisely estimate each of these variables until a group of property is completely retired, we continually monitor the estimated service lives of our assets and the accumulated depreciation associated with each asset class to ensure our depreciation rates are appropriate. In addition, we determine if the recorded amount of accumulated depreciation is deficient (or in excess) of the amount indicated by our depreciation studies. Any deficiency (or excess) is amortized as a component of depreciation expense over the remaining service lives of the applicable classes of assets.

For retirements of depreciable railroad properties that do not occur in the normal course of business, a gain or loss may be recognized if the retirement meets each of the following three conditions: (i) is unusual, (ii) is material in amount, and (iii) varies significantly from the retirement profile identified through our depreciation studies. A gain or loss is recognized in other income when we sell land or dispose of assets that are not part of our railroad operations.

When we purchase an asset, we capitalize all costs necessary to make the asset ready for its intended use. However, many of our assets are self-constructed. A large portion of our capital expenditures is for replacement of existing track assets and other road properties, which is typically performed by our employees, and for track line expansion and other capacity projects. Costs that are directly attributable to capital projects (including overhead costs) are capitalized. Direct costs that are capitalized as part of self-constructed assets include material, labor, and work equipment. Indirect costs are capitalized if they clearly relate to the construction of the asset.

Normal repairs and maintenance are expensed as incurred, while costs incurred that extend the useful life of an asset, improve the safety of our operations or improve operating efficiency are capitalized. These costs are allocated using appropriate statistical bases. Total expense for repairs and maintenance incurred was $2.5 billion for 2017, $2.3 billion for 2016, and $2.5 billion for 2015.

Assets held under capital leases are recorded at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

13. Accounts Payable and Other Current Liabilities

Millions	***Dec. 31, 2017***	*Dec. 31, 2016*
Accounts payable	**$ 1,013**	$ 955
Income and other taxes payable	**547**	472
Accrued wages and vacation	**384**	387
Interest payable	**220**	212
Accrued casualty costs	**194**	185
Equipment rents payable	**110**	101
Other	**671**	570
Total accounts payable and other current liabilities	**$ 3,139**	$ 2,882

14. Financial Instruments

Short-Term Investments – The Company's short-term investments consist of time deposits and government agency securities. These investments are considered level 2 investments and are valued at amortized cost, which approximates fair value ($90 million of time deposits as of December 31, 2017). All short-term investments have a maturity of less than one year and are classified as held-to-maturity. There were no transfers out of Level 2 during the year ended December 31, 2017.

Fair Value of Financial Instruments – The fair value of our short- and long-term debt was estimated using a market value price model, which utilizes applicable U.S. Treasury rates along with current market quotes on comparable debt securities. All of the inputs used to determine the fair market value of the Corporation's long-term debt are Level 2 inputs and obtained from an independent source. At December 31, 2017, the fair value of total debt was $18.2 billion, approximately $1.3 billion more than the carrying value. At December 31, 2016, the fair value of total debt was $15.9 billion, approximately $0.9 billion more than the carrying value. The fair value of the Corporation's debt is a measure of its current value under present market conditions. It does not impact the financial statements under current accounting rules. At both December 31, 2017, and 2016, approximately $155 million of debt securities contained call provisions that allow us to retire the debt instruments prior to final maturity at par, without the payment of fixed call premiums. The fair value of our cash equivalents approximates their carrying value due to the short-term maturities of these instruments.

15. Debt

Total debt as of December 31, 2017, and 2016, is summarized below:

Millions	***2017***	*2016*
Notes and debentures, 1.8% to 7.9% due through 2067	**$15,096**	$13,547
Capitalized leases, 3.1% to 8.4% due through 2028	**892**	1,105
Equipment obligations, 2.6% to 6.7% due through 2031	**1,018**	1,069
Term loans - floating rate, due in 2018	**250**	100
Mortgage bonds, 4.8% due through 2030	**57**	57
Medium-term notes, 9.3% to 10.0% due through 2020	**18**	23
Receivables Securitization (Note 11)	**500**	-
Unamortized discount and deferred issuance costs	**(887)**	(894)
Total debt	**16,944**	15,007
Less: current portion	**(800)**	(758)
Total long-term debt	**$16,144**	$14,249

Debt Maturities – The following table presents aggregate debt maturities as of December 31, 2017, excluding market value adjustments:

Millions	
2018	$ 806
2019	1,125
2020	1,021
2021	677
2022	917
Thereafter	13,285
Total principal	17,831
Unamortized discount and deferred issuance costs	(887)
Total debt	$16,944

Equipment Encumbrances – Equipment with a carrying value of approximately $2.0 billion and $2.3 billion at December 31, 2017, and 2016, respectively, served as collateral for capital leases and other types of equipment obligations in accordance with the secured financing arrangements utilized to acquire or refinance such railroad equipment.

As a result of the merger of Missouri Pacific Railroad Company (MPRR) with and into UPRR on January 1, 1997, and pursuant to the underlying indentures for the MPRR mortgage bonds, UPRR must maintain the same value of assets after the merger in order to comply with the security requirements of the mortgage bonds. As of the merger date, the value of the MPRR assets that secured the mortgage bonds was approximately $6.0 billion. In accordance with the terms of the indentures, this collateral value must be maintained during the entire term of the mortgage bonds irrespective of the outstanding balance of such bonds.

Credit Facilities – At December 31, 2017, we had $1.7 billion of credit available under our revolving credit facility, which is designated for general corporate purposes and supports the issuance of commercial paper. We did not draw on the facility during 2017. Commitment fees and interest rates payable under the facility are similar to fees and rates available to comparably rated, investment-grade borrowers. The facility allows for borrowings at floating rates based on London Interbank Offered Rates, plus a spread, depending upon credit ratings for our senior unsecured debt. The facility matures in May 2019 under a five-year term and requires UPC to maintain a debt-to-net-worth coverage ratio.

The definition of debt used for purposes of calculating the debt-to-net-worth coverage ratio includes, among other things, certain credit arrangements, capital leases, guarantees and unfunded and vested pension benefits under Title IV of ERISA. At December 31, 2017, the debt-to-net-worth coverage ratio allowed us to carry up to $49.7 billion of debt (as defined in the facility), and we had $17.0 billion of debt (as defined in the facility) outstanding at that date. Under our current financial plans, we expect to continue to satisfy the debt-to-net-worth coverage ratio; however, many factors beyond our reasonable control could affect our ability to comply with this provision in the future. The facility does not include any other financial restrictions, credit rating triggers (other than rating-dependent pricing), or any other provision that could require us to post collateral. The facility also includes a $125 million cross-default provision and a change-of-control provision.

During 2017, we did not issue or repay any commercial paper, and at December 31, 2017, and 2016, we had no commercial paper outstanding. Our revolving credit facility supports our outstanding commercial paper balances, and, unless we change the terms of our commercial paper program, our aggregate issuance of commercial paper will not exceed the amount of borrowings available under the facility.

Dividend Restrictions – Our revolving credit facility includes a debt-to-net worth covenant (discussed in the Credit Facilities section above) that, under certain circumstances, restricts the payment of cash dividends to our shareholders. The amount of retained earnings available for dividends was $16.4 billion and $12.4 billion at December 31, 2017, and 2016, respectively.

Shelf Registration Statement and Significant New Borrowings – In 2016, the Board of Directors reauthorized the issuance of up to $4.0 billion of debt securities. Under our shelf registration, we may issue, from time to time, any combination of debt securities, preferred stock, common stock, or warrants for debt securities or preferred stock in one or more offerings.

During 2017, we issued the following unsecured, fixed-rate debt securities under our current shelf registration:

Date	*Description of Securities*
April 5, 2017	$500 million of 3.000% Notes due April 15, 2027
	$500 million of 4.000% Notes due April 15, 2047
September 19, 2017	$500 million of 3.600% Notes due September 15, 2037
	$500 million of 4.100% Notes due September 15, 2067

We used the net proceeds from the offerings for general corporate purposes, including the repurchase of common stock pursuant to our share repurchase program. These debt securities include change-of-control provisions. At December 31, 2017, we had remaining authority to issue up to $1.55 billion of debt securities under our shelf registration.

Receivables Securitization Facility – As of December 31, 2017, and 2016, we recorded $500 million and $0, respectively, of borrowings under our Receivables Facility, as secured debt. (See further discussion of our receivables securitization facility in Note 11).

16. Variable Interest Entities

We have entered into various lease transactions in which the structure of the leases contain variable interest entities (VIEs). These VIEs were created solely for the purpose of doing lease transactions (principally involving railroad equipment and facilities) and have no other activities, assets or liabilities outside of the lease transactions. Within these lease arrangements, we have the right to purchase some or all of the assets at fixed prices. Depending on market conditions, fixed-price purchase options available in the leases could potentially provide benefits to us; however, these benefits are not expected to be significant.

We maintain and operate the assets based on contractual obligations within the lease arrangements, which set specific guidelines consistent within the railroad industry. As such, we have no control over activities that could materially impact the fair value of the leased assets. We do not hold the power to direct the activities of the VIEs and, therefore, do not control the ongoing activities that have a significant impact on the economic performance of the VIEs. Additionally, we do not have the obligation to absorb losses of the VIEs or the right to receive benefits of the VIEs that could potentially be significant to the VIEs.

We are not considered to be the primary beneficiary and do not consolidate these VIEs because our actions and decisions do not have the most significant effect on the VIE’s performance and our fixed-price purchase options are not considered to be potentially significant to the VIEs. The future minimum lease payments associated with the VIE leases totaled $1.9 billion as of December 31, 2017.

17. Leases

We lease certain locomotives, freight cars, and other property. The Consolidated Statements of Financial Position as of December 31, 2017, and 2016 included $1,635 million, net of $953 million of accumulated depreciation, and $1,997 million, net of $1,121 million of accumulated depreciation, respectively, for properties held under capital leases. A charge to income resulting from the depreciation for assets held under capital leases is included within depreciation expense in our Consolidated Statements of Income. Future minimum lease payments for operating and capital leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2017, were as follows:

Millions	*Operating Leases*	*Capital Leases*
2018	$ 398	$ 173
2019	359	156
2020	297	164
2021	259	168
2022	221	147
Later years	1,115	271
Total minimum lease payments	$ 2,649	$ 1,079
Amount representing interest	N/A	(187)
Present value of minimum lease payments	N/A	$ 892

Approximately 97% of capital lease payments relate to locomotives. Rent expense for operating leases with terms exceeding one month was $480 million in 2017, $535 million in 2016, and $590 million in 2015. When cash rental payments are not made on a straight-line basis, we recognize variable rental expense on a straight-line basis over the lease term. Contingent rentals and sub-rentals are not significant.

18. Commitments and Contingencies

Asserted and Unasserted Claims – Various claims and lawsuits are pending against us and certain of our subsidiaries. We cannot fully determine the effect of all asserted and unasserted claims on our consolidated results of operations, financial condition, or liquidity. To the extent possible, we have recorded a liability where asserted and unasserted claims are considered probable and where such claims can be reasonably estimated. We do not expect that any known lawsuits, claims, environmental costs, commitments, contingent liabilities, or guarantees will have a material adverse effect on our consolidated results of operations, financial condition, or liquidity after taking into account liabilities and insurance recoveries previously recorded for these matters.

Personal Injury – The cost of personal injuries to employees and others related to our activities is charged to expense based on estimates of the ultimate cost and number of incidents each year. We use an actuarial analysis to measure the expense and liability, including unasserted claims. The Federal Employers' Liability Act (FELA) governs compensation for work-related accidents. Under FELA, damages are assessed based on a finding of fault through litigation or out-of-court settlements. We offer a comprehensive variety of services and rehabilitation programs for employees who are injured at work.

Our personal injury liability is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 95% of the recorded liability is related to asserted claims and approximately 5% is related to unasserted claims at December 31, 2017. Because of the uncertainty surrounding the ultimate outcome of personal injury claims, it is reasonably possible that future costs to settle these claims may range from approximately $285 million to $310 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other. Estimates can vary over time due to evolving trends in litigation.

Our personal injury liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 290**	$ 318	$ 335
Current year accruals	**77**	75	89
Changes in estimates for prior years	**(7)**	(29)	(3)
Payments	**(75)**	(74)	(103)
Ending balance at December 31	**$ 285**	$ 290	$ 318
Current portion, ending balance at December 31	**$ 66**	$ 62	$ 63

In conjunction with the liability update performed in 2017, we also reassessed our estimated insurance recoveries. We have recognized an asset for estimated insurance recoveries at December 31, 2017, and 2016. Any changes to recorded insurance recoveries are included in the above table in the Changes in estimates for prior years category.

Asbestos – We are a defendant in a number of lawsuits in which current and former employees and other parties allege exposure to asbestos. We assess our potential liability using a statistical analysis of resolution costs for asbestos-related claims. This liability is updated annually and excludes future defense and processing costs. The liability for resolving both asserted and unasserted claims was based on the following assumptions:

- The ratio of future claims by alleged disease would be consistent with historical averages adjusted for inflation.
- The number of claims filed against us will decline each year.
- The average settlement values for asserted and unasserted claims will be equivalent to historical averages.
- The percentage of claims dismissed in the future will be equivalent to historical averages.

Our liability for asbestos-related claims is not discounted to present value due to the uncertainty surrounding the timing of future payments. Approximately 16% of the recorded liability related to asserted claims and approximately 84% related to unasserted claims at December 31, 2017. Because of the uncertainty surrounding the ultimate outcome of asbestos-related claims, it is reasonably possible that future costs to settle these claims may range from approximately $99 million to $105 million. We record an accrual at the low end of the range as no amount of loss within the range is more probable than any other.

Our asbestos-related liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 111**	$ 120	$ 126
Accruals/(Credits)	**(1)**	12	-
Payments	**(11)**	(21)	(6)
Ending balance at December 31	**$ 99**	$ 111	$ 120
Current portion, ending balance at December 31	**$ 9**	$ 8	$ 6

In conjunction with the liability update performed in 2017, we also reassessed our estimated insurance recoveries. We have recognized an asset for estimated insurance recoveries at December 31, 2017, and 2016. The amounts recorded for asbestos-related liabilities and related insurance recoveries were based on currently known facts. However, future events, such as the number of new claims filed each year, average settlement costs, and insurance coverage issues, could cause the actual costs and insurance recoveries to be higher or lower than the projected amounts. Estimates also may vary in the future if strategies, activities, and outcomes of asbestos litigation materially change; federal and state laws governing asbestos litigation increase or decrease the probability or amount of compensation of claimants; and there are material changes with respect to payments made to claimants by other defendants.

Environmental Costs – We are subject to federal, state, and local environmental laws and regulations. We have identified 315 sites at which we are or may be liable for remediation costs associated with alleged contamination or for violations of environmental requirements. This includes 33 sites that are the subject of actions taken by the U.S. government, 21 of which are currently on the Superfund National Priorities List.

Certain federal legislation imposes joint and several liability for the remediation of identified sites; consequently, our ultimate environmental liability may include costs relating to activities of other parties, in addition to costs relating to our own activities at each site.

When we identify an environmental issue with respect to property owned, leased, or otherwise used in our business, we perform, with assistance of our consultants, environmental assessments on the property. We expense the cost of the assessments as incurred. We accrue the cost of remediation where our obligation is probable and such costs can be reasonably estimated. Our environmental liability is not discounted to present value due to the uncertainty surrounding the timing of future payments.

Our environmental liability activity was as follows:

Millions	***2017***	*2016*	*2015*
Beginning balance	**$ 212**	$ 190	$ 182
Accruals	**45**	84	61
Payments	**(61)**	(62)	(53)
Ending balance at December 31	**$ 196**	$ 212	$ 190
Current portion, ending balance at December 31	**$ 57**	$ 55	$ 52

The environmental liability includes future costs for remediation and restoration of sites, as well as ongoing monitoring costs, but excludes any anticipated recoveries from third parties. Cost estimates are based on information available for each site, financial viability of other potentially responsible parties, and existing technology, laws, and regulations. The ultimate liability for remediation is difficult to determine because of the number of potentially responsible parties, site-specific cost sharing arrangements with other potentially responsible parties, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Estimates of liability may vary over time due to changes in federal, state, and local laws governing environmental remediation. Current obligations are not expected to have a material adverse effect on our consolidated results of operations, financial condition, or liquidity.

Insurance – The Company has a consolidated, wholly-owned captive insurance subsidiary (the captive), that provides insurance coverage for certain risks including FELA claims and property coverage which are subject to reinsurance. The captive entered into annual reinsurance treaty agreements that insure workers compensation, general liability, auto liability and FELA risk. The captive cedes a portion of its FELA exposure through the treaty and assumes a proportionate share of the entire risk. The captive receives direct premiums, which are netted against the Company's premium costs in other expenses in the Consolidated Statements of Income. The treaty agreements provide for certain protections against the risk of treaty participants' non-performance, and we do not believe our exposure to treaty participants' non-performance is material at this time. In the event the Company leaves the reinsurance program, the Company is not relieved of its primary obligation to the policyholders for activity prior to the termination of the treaty agreements. We record both liabilities and reinsurance receivables using an actuarial analysis based on historical experience in our Consolidated Statements of Financial Position.

Guarantees – At December 31, 2017, and 2016, we were contingently liable for $33 million and $43 million in guarantees, respectively. The fair value of these obligations as of both December 31, 2017, and 2016 was $0. We entered into these contingent guarantees in the normal course of business, and they include guaranteed obligations related to our affiliated operations. The final guarantee expires in 2022. We are not aware of any existing event of default that would require us to satisfy these guarantees. We do not expect that these guarantees will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity.

Indemnities – We are contingently obligated under a variety of indemnification arrangements, although in some cases the extent of our potential liability is limited, depending on the nature of the transactions and the agreements. Due to uncertainty as to whether claims will be made or how they will be resolved, we cannot reasonably determine the probability of an adverse claim or reasonably estimate any adverse liability or the total maximum exposure under these indemnification arrangements. We do not have any reason to believe that we will be required to make any material payments under these indemnity provisions.

19. Share Repurchase Program

Effective January 1, 2017, our Board of Directors authorized the repurchase of up to 120 million shares of our common stock by December 31, 2020, replacing our previous repurchase program. As of December 31, 2017, we repurchased a total of $23.2 billion of our common stock since the commencement of our repurchase programs in 2007. The table below represents shares repurchased in 2017 under this repurchase program and shares repurchased in 2016 under our previous repurchase program.

	Number of Shares Purchased		*Average Price Paid*	
	2017	*2016*	***2017***	*2016*
First quarter	**7,531,300**	9,315,807	**$ 106.55**	$ 76.49
Second quarter	**7,788,283**	7,026,100	**109.10**	85.66
Third quarter	**11,801,755**	9,088,613	**106.69**	93.63
Fourth quarter	**9,231,510**	9,624,667	**119.37**	97.60
Total	**36,352,848**	35,055,187	**$ 110.40**	$ 88.57

Management's assessments of market conditions and other pertinent factors guide the timing and volume of all repurchases. Repurchased shares are recorded in treasury stock at cost, which includes any applicable commissions and fees.

From January 1, 2018, through February 8, 2018, we repurchased 2.6 million shares at an aggregate cost of approximately $349 million.

20. Related Parties

UPRR and other North American railroad companies jointly own TTX Company (TTX). UPRR has a 36.79% economic and voting interest in TTX while the other North American railroads own the remaining interest. In accordance with ASC 323 *Investments - Equity Method and Joint Venture*, UPRR applies the equity method of accounting to our investment in TTX.

TTX is a railcar pooling company that owns railcars and intermodal wells to serve North America's railroads. TTX assists railroads in meeting the needs of their customers by providing railcars in an efficient, pooled environment. All railroads have the ability to utilize TTX railcars through car hire by renting railcars at stated rates.

UPRR had $1.2 billion and $877 million recognized as investments related to TTX in our Consolidated Statements of Financial Position as of December 31, 2017, and 2016, respectively. TTX car hire expenses of $388 million in 2017, $368 million in 2016, and $376 million in 2015 are included in equipment and other rents in our Consolidated Statements of Income. In addition, UPRR had accounts payable to TTX of $69 million and $61 million at December 31, 2017, and 2016, respectively.

21. Selected Quarterly Data (Unaudited)

Millions, Except Per Share Amounts				
2017	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 5,132	$ 5,250	$ 5,408	$ 5,450
Operating income	1,793	2,005	2,012	2,251
Net income	1,072	1,168	1,194	7,278
Net income per share:				
Basic	1.32	1.45	1.50	9.29
Diluted	1.32	1.45	1.50	9.25

Millions, Except Per Share Amounts				
2016	*Mar. 31*	*Jun. 30*	*Sep. 30*	*Dec. 31*
Operating revenues	$ 4,829	$ 4,770	$ 5,174	$ 5,168
Operating income	1,687	1,660	1,960	1,965
Net income	979	979	1,131	1,144
Net income per share:				
Basic	1.16	1.17	1.36	1.40
Diluted	1.16	1.17	1.36	1.39

Per share net income for the four quarters combined may not equal the per share net income for the year due to rounding.

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

None.

Item 9A. Controls and Procedures

As of the end of the period covered by this report, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation's management, including the Corporation's Chief Executive Officer (CEO) and Executive Vice President and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures pursuant to Exchange Act Rules 13a-15 and 15d-15. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based upon that evaluation, the CEO and the CFO concluded that, as of the end of the period covered by this report, the Corporation's disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified by the SEC, and that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, the CEO and CFO determined that there were no changes to the Corporation's internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Union Pacific Corporation and Subsidiary Companies (the Corporation) is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)). The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2017. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control – Integrated Framework (2013)*. Based on our assessment, management believes that, as of December 31, 2017, the Corporation's internal control over financial reporting is effective based on those criteria.

The Corporation's independent registered public accounting firm has issued an attestation report on the effectiveness of the Corporation's internal control over financial reporting. This report appears on the next page.

February 8, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Union Pacific Corporation
Omaha, Nebraska

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Union Pacific Corporation and Subsidiary Companies (the "Corporation") as of December 31, 2017, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Corporation as of December 31, 2017 and 2016, the related consolidated statements of income, comprehensive income, changes in common shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and the schedule listed in the Table of Contents at Part IV, Item 15 (collectively referred to as the "financial statements") and our report dated February 9, 2018 expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Corporation'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 Corporation'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 Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 9, 2018

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

(a) Directors of Registrant.

Information as to the names, ages, positions and offices with UPC, terms of office, periods of service, business experience during the past five years and certain other directorships held by each director or person nominated to become a director of UPC is set forth in the Election of Directors segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee and the independence of its members, along with information about the audit committee financial expert(s) serving on the Audit Committee, is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

(b) Executive Officers of Registrant.

Information concerning the executive officers of UPC and its subsidiaries is presented in Part I of this report under Executive Officers of the Registrant and Principal Executive Officers of Subsidiaries.

(c) Section 16(a) Compliance.

Information concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth in the Section 16(a) Beneficial Ownership Reporting Compliance segment of the Proxy Statement and is incorporated herein by reference.

(d) Code of Ethics for Chief Executive Officer and Senior Financial Officers of Registrant.

The Board of Directors of UPC has adopted the UPC Code of Ethics for the Chief Executive Officer and Senior Financial Officers (the Code). A copy of the Code may be found on the Internet at our website www.up.com/investor/governance. We intend to disclose any amendments to the Code or any waiver from a provision of the Code on our website.

Item 11. Executive Compensation

Information concerning compensation received by our directors and our named executive officers is presented in the Compensation Discussion and Analysis, Summary Compensation Table, Grants of Plan-Based Awards in Fiscal Year 2017, Outstanding Equity Awards at 2017 Fiscal Year-End, Option Exercises and Stock Vested in Fiscal Year 2017, Pension Benefits at 2017 Fiscal Year-End, Nonqualified Deferred Compensation at 2017 Fiscal Year-End, Potential Payments Upon Termination or Change in Control and Director Compensation in Fiscal Year 2017 segments of the Proxy Statement and is incorporated herein by reference. Additional information regarding compensation of directors, including Board committee members, is set forth in the By-Laws of UPC and the Stock Unit Grant and Deferred Compensation Plan for the Board of Directors, both of which are included as exhibits to this report. Information regarding the Compensation and Benefits Committee is set forth in the Compensation Committee Interlocks and Insider Participation and Compensation Committee Report segments of the Proxy Statement and is incorporated herein by reference.

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

Information as to the number of shares of our equity securities beneficially owned by each of our directors and nominees for director, our named executive officers, our directors and executive officers as a group, and certain beneficial owners is set forth in the Security Ownership of Certain Beneficial Owners and Management segment of the Proxy Statement and is incorporated herein by reference.

The following table summarizes the equity compensation plans under which UPC common stock may be issued as of December 31, 2017:

	(a)		(b)	(c)
Plan Category	*Number of securities to be issued upon exercise of outstanding options, warrants and rights*		*Weighted-average exercise price of outstanding options, warrants and rights*	*Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))*
Equity compensation plans approved by security holders	7,345,104 [1]	$	83.35 [2]	72,151,415
Total	7,345,104	$	83.35	72,151,415

[1] *Includes 1,715,240 retention units that do not have an exercise price. Does not include 1,780,322 retention shares that have been issued and are outstanding.*

[2] *Does not include the retention units or retention shares described above in footnote 1.*

Item 13. Certain Relationships and Related Transactions and Director Independence

Information on related transactions is set forth in the Certain Relationships and Related Transactions and Compensation Committee Interlocks and Insider Participation segments of the Proxy Statement and is incorporated herein by reference. We do not have any relationship with any outside third party that would enable such a party to negotiate terms of a material transaction that may not be available to, or available from, other parties on an arm's-length basis.

Information regarding the independence of our directors is set forth in the Director Independence segment of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information concerning the fees billed by our independent registered public accounting firm and the nature of services comprising the fees for each of the two most recent fiscal years in each of the following categories: (i) audit fees, (ii) audit-related fees, (iii) tax fees, and (iv) all other fees, is set forth in the Independent Registered Public Accounting Firm's Fees and Services segment of the Proxy Statement and is incorporated herein by reference.

Information concerning our Audit Committee's policies and procedures pertaining to pre-approval of audit and non-audit services rendered by our independent registered public accounting firm is set forth in the Audit Committee segment of the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules, and Exhibits:

(1) Financial Statements

The financial statements filed as part of this filing are listed on the index to the Financial Statements and Supplementary Data, Item 8, on page 44.

(2) Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

Schedules not listed above have been omitted because they are not applicable or not required or the information required to be set forth therein is included in the Financial Statements and Supplementary Data, Item 8, or notes thereto.

(3) Exhibits

Exhibits are listed in the exhibit index beginning on page 87. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on this 9th day of February, 2018.

UNION PACIFIC CORPORATION

By /s/ Lance M. Fritz

Lance M. Fritz, Chairman, President and Chief Executive Officer Union Pacific Corporation

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, on this 9th day of February, 2018, by the following persons on behalf of the registrant and in the capacities indicated.

PRINCIPAL EXECUTIVE OFFICER AND DIRECTOR:		
	By	/s/ Lance M. Fritz Lance M. Fritz, Chairman, President and Chief Executive Officer Union Pacific Corporation
PRINCIPAL FINANCIAL OFFICER:		
	By	/s/ Robert M. Knight, Jr. Robert M. Knight, Jr., Executive Vice President and Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

By /s/ Todd M. Rynaski
Todd M. Rynaski, Vice President and Controller

DIRECTORS:

Andrew H. Card, Jr.*
Erroll B. Davis, Jr.*
David B. Dillon*
Deborah C. Hopkins*
Jane H. Lute*
Michael R. McCarthy*
Michael W. McConnell*
Thomas F. McLarty III*
Bhavesh V. Patel*
Steven R. Rogel*
Jose H. Villarreal*

*By James J. Theisen, Jr.
James J. Theisen, Jr., Attorney-in-fact

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
Union Pacific Corporation and Subsidiary Companies

Millions, for the Years Ended December 31,	***2017***	*2016*	*2015*
Allowance for doubtful accounts:			
Balance, beginning of period	**$ 22**	$ 16	$ 21
Charges/(reduction) to expense	**1**	23	1
Net recoveries/(write-offs)	**(3)**	(17)	(6)
Balance, end of period	**$ 20**	$ 22	$ 16
Allowance for doubtful accounts are presented in the Consolidated Statements of Financial Position as follows:			
Current	**$ 3**	$ 5	$ 5
Long-term	**17**	17	11
Balance, end of period	**$ 20**	$ 22	$ 16
Accrued casualty costs:			
Balance, beginning of period	**$ 716**	$ 736	$ 757
Charges to expense	**167**	202	227
Cash payments and other reductions	**(199)**	(222)	(248)
Balance, end of period	**$ 684**	$ 716	$ 736
Accrued casualty costs are presented in the Consolidated Statements of Financial Position as follows:			
Current	**$ 194**	$ 185	$ 181
Long-term	**490**	531	555
Balance, end of period	**$ 684**	$ 716	$ 736

UNION PACIFIC CORPORATION
Exhibit Index

Exhibit No.	Description
Filed with this Statement	
10(a)	Form of Performance Stock Unit Agreement dated February 8, 2018.
10(b)	Form of Stock Unit Agreement for Executives dated February 8, 2018.
10(c)	Form of Non-Qualified Stock Option Agreement for Executives dated February 8, 2018.
10(d)	Supplemental Thrift Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, effective as of January 1, 2009, including all amendments adopted through January 1, 2018.
10(e)	Supplemental Pension Plan for Officers and Managers (409A Non-Grandfathered Component) of Union Pacific Corporation and Affiliates, as amended and restated in its entirety, effective as of January 1, 1989, including all amendments adopted through January 1, 2018.
12	Ratio of Earnings to Fixed Charges.
21	List of the Corporation’s significant subsidiaries and their respective states of incorporation.
23	Independent Registered Public Accounting Firm’s Consent.
24	Powers of attorney executed by the directors of UPC.
31(a)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz.
31(b)	Certifications Pursuant to Rule 13a-14(a), of the Exchange Act, as Adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Robert M. Knight, Jr.
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 - Lance M. Fritz and Robert M. Knight, Jr.
101	eXtensible Business Reporting Language (XBRL) documents submitted electronically: 101.INS (XBRL Instance Document), 101.SCH (XBRL Taxonomy Extension Schema Document), 101.CAL (XBRL Calculation Linkbase Document), 101.LAB (XBRL Taxonomy Label Linkbase Document), 101.DEF (XBRL Taxonomy Definition Linkbase Document) and 101.PRE (XBRL Taxonomy Presentation Linkbase Document). The following financial and related information from Union Pacific Corporation’s Annual Report on Form 10-K for the year ended December 31, 2017 (filed with the SEC on February 9, 2018), is formatted in XBRL and submitted electronically herewith: (i) Consolidated Statements of Income for the years ended December 31, 2017, 2016 and 2015, (ii) Consolidated Statements of

Comprehensive Income for the years ended December 31, 2017, 2016, and 2015, (iii) Consolidated Statements of Financial Position at December 31, 2017 and December 31, 2016, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2017, 2016 and 2015, (v) Consolidated Statements of Changes in Common Shareholders' Equity for the years ended December 31, 2017, 2016 and 2015, and (vi) the Notes to the Consolidated Financial Statements.

Incorporated by Reference

3(a)	Restated Articles of Incorporation of UPC, as amended and restated through June 27, 2011, and as further amended May 15, 2014, are incorporated herein by reference to Exhibit 3(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.
3(b)	By-Laws of UPC, as amended, effective November 19, 2015, are incorporated herein by reference to Exhibit 3.2 to the Corporation's Current Report on Form 8-K dated November 19, 2015.
4(a)	Indenture, dated as of December 20, 1996, between UPC and Wells Fargo Bank, National Association, as successor to Citibank, N.A., as Trustee, is incorporated herein by reference to Exhibit 4.1 to UPC's Registration Statement on Form S-3 (No. 333-18345).
4(b)	Indenture, dated as of April 1, 1999, between UPC and The Bank of New York, as successor to JP Morgan Chase Bank, formerly The Chase Manhattan Bank, as Trustee, is incorporated herein by reference to Exhibit 4.2 to UPC's Registration Statement on Form S-3 (No. 333-75989).
4(c)	Form of 3.000% Note due 2027 is incorporated by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated April 5, 2017.
4(d)	Form of 4.000% Note due 2047 is incorporated by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated April 5, 2017.
4(e)	Form of 3.600% Note due 2037 is incorporated herein by reference to Exhibit 4.1 to the Corporation's Current Report on Form 8-K dated September 19, 2017.
4(f)	Form of 4.100% Note due 2067 is incorporated herein by reference to Exhibit 4.2 to the Corporation's Current Report on Form 8-K dated September 19, 2017.
	Certain instruments evidencing long-term indebtedness of UPC are not filed as exhibits because the total amount of securities authorized under any single such instrument does not exceed 10% of the Corporation's total consolidated assets. UPC agrees to furnish the Commission with a copy of any such instrument upon request by the Commission.
10(f)	Supplemental Thrift Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(g)	Supplemental Pension Plan for Officers and Managers (409A Grandfathered Component) of

	Union Pacific Corporation and Affiliates, as amended February 1, 2013, and March 1, 2013 is incorporated herein by reference to Exhibit 10(f) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(h)	Union Pacific Corporation Key Employee Continuity Plan, as amended February 6, 2014, is incorporated herein by reference to Exhibit 10(d) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.

10(i)	Union Pacific Corporation Executive Incentive Plan, effective May 5, 2005, amended and restated effective January 1, 2009, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(j)	Deferred Compensation Plan (409A Grandfathered Component) of Union Pacific Corporation, as amended March 1, 2013, is incorporated herein by reference to Exhibit 10(b) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(k)	Deferred Compensation Plan (409A Non-Grandfathered Component) of Union Pacific Corporation, as amended December 17, 2013, is incorporated herein by reference to Exhibit 10(e) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(l)	Union Pacific Corporation 2000 Directors Plan, effective as of April 21, 2000, as amended November 16, 2006, January 30, 2007 and January 1, 2009 is incorporated herein by reference to Exhibit 10(j) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(m)	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Non-Grandfathered Component), effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(k) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(n)	Union Pacific Corporation Stock Unit Grant and Deferred Compensation Plan for the Board of Directors (409A Grandfathered Component), as amended and restated in its entirety, effective as of January 1, 2009 is incorporated herein by reference to Exhibit 10(l) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2008.
10(o)	Union Pacific Corporation 2013 Stock Incentive Plan, effective May 16, 2013, is incorporated herein by reference to Exhibit 4.3 to the Corporation's Form S-8 dated May 17, 2013.
10(p)	UPC 2004 Stock Incentive Plan amended March 1, 2013, is incorporated herein by reference to Exhibit 10(g) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.
10(q)	Amended and Restated Registration Rights Agreement, dated as of July 12, 1996, among UPC, UP Holding Company, Inc., Union Pacific Merger Co. and Southern Pacific Rail Corporation (SP) is incorporated herein by reference to Annex J to the Joint Proxy Statement/Prospectus included in Post-Effective Amendment No. 2 to UPC's Registration Statement on Form S-4 (No. 33-64707).
10(r)	Agreement, dated September 25, 1995, among UPC, UPRR, Missouri Pacific Railroad Company (MPRR), SP, Southern Pacific Transportation Company (SPT), The Denver & Rio Grande Western Railroad Company (D&RGW), St. Louis Southwestern Railway Company (SLSRC) and SPCSL Corp. (SPCSL), on the one hand, and

	Burlington Northern Railroad Company (BN) and The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), on the other hand, is incorporated by reference to Exhibit 10.11 to UPC's Registration Statement on Form S-4 (No. 33 64707).
10(s)	Supplemental Agreement, dated November 18, 1995, between UPC, UPRR, MPRR, SP, SPT, D&RGW, SLSRC and SPCSL, on the one hand, and BN and Santa Fe, on the other hand, is incorporated herein by reference to Exhibit 10.12 to UPC's Registration Statement on Form S-4 (No. 33 64707).

10(t)	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(u)	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2012.
10(v)	Form of Non-Qualified Stock Option Agreement for Executives is incorporated herein by reference to Exhibit 10(c) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(w)	Form of Stock Unit Agreement for Executives is incorporated herein by reference to Exhibit 10(b) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2013.
10(x)	Form of 2015 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2014.
10(y)	Form of 2016 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2015.
10(z)	Form of 2017 Long Term Plan Stock Unit Agreement is incorporated herein by reference to Exhibit 10(a) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2016.
10(aa)	Form of Non-Qualified Stock Option Agreement for Directors is incorporated herein by reference to Exhibit 10(d) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004.
10(bb)	Executive Incentive Plan (2005) – Deferred Compensation Program, dated December 21, 2005 is incorporated herein by reference to Exhibit 10(g) to the Corporation's Annual Report on Form 10-K for the year ended December 31, 2005.
99	Form of U.S. $1,700,000,000 5-Year Revolving Credit Agreement dated as of May 21, 2014, is incorporated herein by reference to Exhibit 99(a) to the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.