UNION PACIFIC CORP
Form 10-K
February 08, 2019

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

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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.

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

Thomas A. Lischer
Executive Vice President-Operations

Todd M. Rynaski
Vice President and Controller

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

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 and Sales

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

*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.
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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.

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
Refrigerated cars	2,372	3,269	5,641	25.4
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. 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 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.

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. 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	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	3.06	2.48	2.255	2.20	1.91

[c]					
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				% Change 2018 v 2017	% Change 2017 v 2016
Millions	2018	2017	2016	2017	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				% Change 2018 v 2017	% Change 2017 v 2016
Thousands	2018	2017	2016	2017	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

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.

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.

2018 Industrial Carloads

Freight revenue from industrial shipments increased in 2017 versus 2016 due to core pricing gains and higher fuel surcharge revenue.

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

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
24.5	25.4	26.6	(4) %	(5) %

Average train speed (miles per hour)							
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:

	Payments Due by December 31,							
Contractual Obligations Millions	Total	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.

Amount of Commitment Expiration per Period

Other Commercial Commitments Millions	Total	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

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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, phras 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

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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	2018	2017	2016

December 31,			
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.

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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:

	Pension		OPEB	
Millions	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:

Millions	Pension 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:

		Percentage of Plan Assets December 31,	
	Target Allocation 2019	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:

	Quoted Prices in Active Markets for	Significant Other Observable	Significant Unobservable

Millions	Identical Inputs (Level 1)	Inputs (Level 2)	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)	(1)	(36)	(37)

before reclassifications			
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 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)

[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		Accumulated	Net Book	Estimated

As of December 31, 2018	Cost	Depreciation	Value	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

	Dec. 31,	Dec. 31,

Millions	2018	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. 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 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.