UNION PACIFIC CORPORATION

Photo Credit: Union Pacific

Union Pacific Railroad serves the western two-thirds of the United States over a 32,452 mile network. The railroad serves as a vital link to the global supply chain for customers in twenty-three states and offers connections to rail systems serving the eastern United States as well as Canada and Mexico. The company provides service to ports on the Gulf and Pacific coasts to facilitate import and export traffic.

In recent years, North American railroads have significantly improved efficiency by implementing precision scheduled railroading. At Union Pacific, the combination of operational improvements and greater balance sheet leverage have driven a significant return of capital to shareholders.

From January 1, 2012 to September 26, 2022, Union Pacific's stock appreciated from $52.97 to $200.86 representing a compound annualized rate of 13.2%. In addition, cumulative dividends of $30.28 per share have been paid during this period. We cover Union Pacific's business results over the past decade with a focus on operational improvements, free cash flow, and capital allocation.

Terms of Use

This report is part of a series of business profiles published by The Rational Walk, LLC.

The purpose of a business profile is to provide readers with information regarding a company's business model and financial results. Business profiles do not provide intrinsic value estimates regarding whether the securities related to the business are attractive investments. Reports are meant to provide background information for educational purposes.

The Rational Walk LLC is not a registered investment advisor. Please consult with your own investment advisor before buying or selling any securities discussed in this report. This report is not investment advice nor is it a recommendation to buy or sell securities. Past performance of securities discussed in this report is not a good indication of future performance.

All content is strictly protected by United States copyright laws. Unlawful reproduction is prohibited. This publication may not be photocopied, electronically redistributed, or quoted without written permission, expect for brief quotations in compliance with the fair use doctrine when accompanied by an acknowledgement of the original source.

The information contained in this report is based on sources considered to be reliable, but no guarantees are made regarding accuracy. No warranties are given as to the accuracy or completeness of this analysis. All links to internet sites listed in this publication were valid at the time of publication but may change or become invalid in the future. No assurance can be given regarding the reliability of data contained on these websites.

Opinion and conclusions contained within this report are effective at the date of the report and future circumstances could cause the publisher of the report to arrive at different conclusions. No duty whatsoever exists to provide updates to readers of this report at a later date if future developments change the publisher's opinions or conclusions.

At the date of this report, individuals associated with The Rational Walk LLC do not own shares of Union Pacific but may buy or sell shares at any time, in any quantity, and for any reason without any disclosure to readers of this report.

The Rational Walk

The Rational Walk was founded in 2009. Over a thousand articles have been published over the past thirteen years primarily on topics related to investing and personal finance. In addition, over one hundred books have been reviewed over the years. The Rational Walk's extensive coverage of Berkshire Hathaway has been mentioned in several news articles. The Rational Walk website and full archive may be accessed at rationalwalk.com.

Rational Reflections

Rational Reflections is a newsletter published by The Rational Walk LLC. The Weekly Digest contains original content and curated links to articles, podcasts, videos, and other content with a high signal-to-noise ratio. Weekly Digest is free. In addition, Rational Reflections publishes profiles of businesses which are distributed to paying subscribers. While there is no set publication schedule for business profiles, subscribers should expect to receive at least twelve profiles per year.

The subscription price for Rational Reflections is $10 per month or $120 per year. Subscriptions are available for purchase at rationalreflections.substack.com/subscribe. Subscriptions are meant to be accessed by a single individual. Please do not redistribute this report or other subscriber-only materials to non-subscribers.

Please direct any inquiries regarding this publication to administrator@rationalwalk.com.

Table of Contents

Introduction

Union Pacific is a Class I railroad that serves the western two-thirds of the United States over a 32,452 mile network.[1] The company was founded in 1862 when President Lincoln signed the Pacific Railway Act which provided incentives to build the first transcontinental railroad. The railroad industry has been consolidating for decades. Today's Union Pacific is the product of numerous mergers.[2]

Serving ten thousand customers in twenty-three states, Union Pacific is a vital link to the global supply chain and offers connections to rail systems serving the eastern United States as well as Canada and Mexico. The company provides service to ports on the Gulf and Pacific coasts to facilitate import and export traffic. The railroad industry in the western United States is effectively a duopoly with Union Pacific and BNSF operating route networks that are very similar in size and scope.[3]

Source: Union Pacific

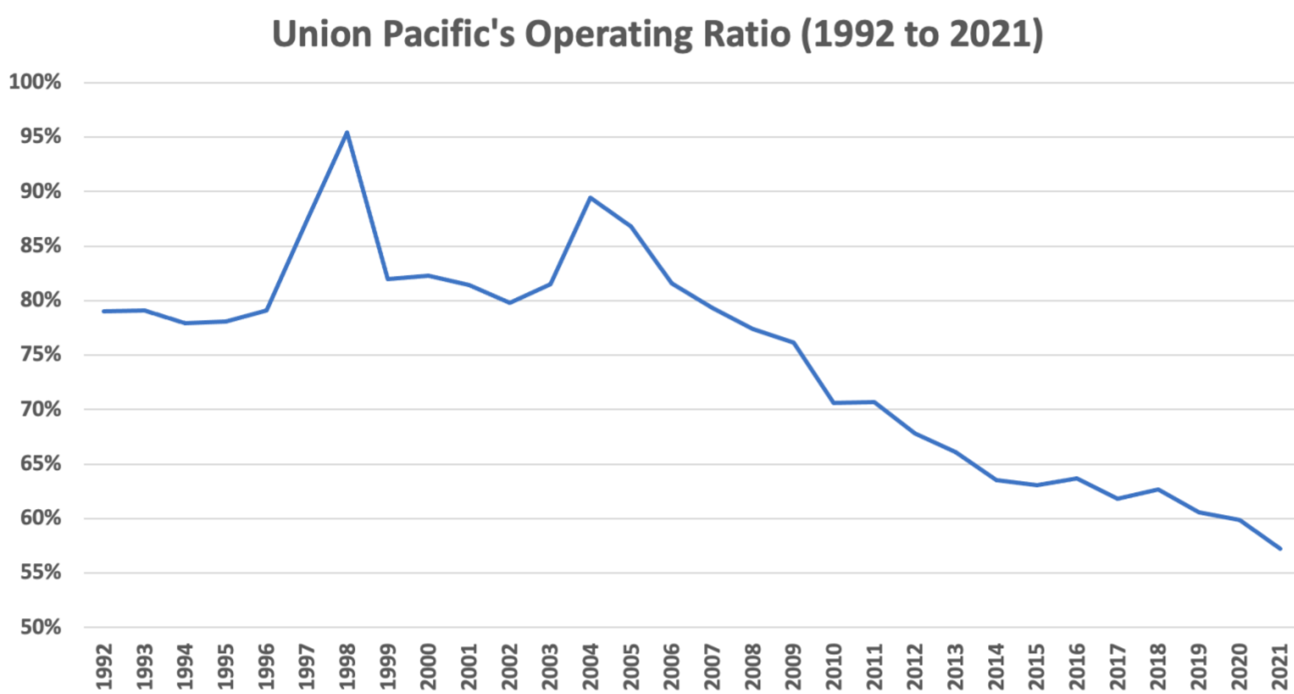
---

[1] The Surface Transportation Board designates railroads with revenue over $943.9 million as Class I. There are seven Class I freight railroads in North America: Union Pacific, BNSF, Norfolk Southern, CSX, Kansas City Southern, Canadian National, and Canadian Pacific. A merger between Canadian Pacific and Kansas City Southern is currently under regulatory review.
[2] Union Pacific's website includes much historical information. Also see *Union Pacific Merger Family Tree* (Trains magazine).
[3] For a recent profile of BNSF, see Burlington Northern: A Review of Berkshire Hathaway's Twelve Years of Ownership.

Railroads face competition from long-distance trucking but rail is far more fuel efficient in terms of how much cargo can be carried per gallon of fuel. On average, Union Pacific transports [463 tons of freight on a gallon of diesel fuel]() which is three to four times more fuel efficient than trucks. Due to industry concentration, railroads are subject to political scrutiny and expected to provide reliable and cost-effective services for customers who have limited alternatives.[4]

Over the past decade, Union Pacific and BNSF have both experienced relatively stagnant revenues. Although railroads compete with trucking for certain types of shipments, the reality is that rapid revenue growth (in real terms) is unlikely in this industry. In order to improve financial results, it has been necessary to operate more efficiently through restructuring of operating models and cost cutting.

A railroad's operating ratio is defined as operating expenses divided by operating revenue. The lower the operating ratio, the more profitable a railroad can be. The drive for efficiency has been underway for a long time and Union Pacific's operating ratio has been on a downward trend since 2004.



Source: Union Pacific's annual report and SEC filings

Although Union Pacific's revenue has barely increased over the past decade, it has become much more profitable. It is necessary to discuss Precision Scheduled Railroading (PSR) to understand how railroads have improved efficiency in recent years. Following an overview of PSR, we examine Union Pacific's operating history and its balance sheet, cash flow generation, and capital allocation track record.

---

[4] For example, see *[Railroad Regulator Turns Up Heat on Industry to Fix Shipping Delays]()* by Ted Mann, 8/21/22, WSJ.

Precision Scheduled Railroading

Hunter Harrison is best known for implementing a set of operating principles known as Precision Scheduled Railroading (PSR). Harrison introduced these concepts and achieved major improvements in efficiency and profitability during his time as CEO of four major railroads. At Illinois Central, Harrison developed the early principles of PSR and proved the efficacy of the approach. At Canadian National and Canadian Pacific, Harrison further refined PSR and became known as an industry legend.

Although Harrison died in December 2017, just months after assuming the CEO position at CSX, he set the railroad on course for major improvements.[5] In 2021, CSX posted an industry leading operating ratio of 55.3 percent, down from approximately 70 percent in the years prior to Harrison's tenure.[6]

In 2018, Union Pacific announced its adoption of PSR which was expected to result in an operating ratio of 60 percent by 2020 and eventually generate a 55 percent operating ratio.[7] Early results have been positive. The company's operating ratio fell from 62.7 percent in 2018 to 57.2 in 2021.

Railroads have historically focused on building long trains and moving them quickly. Unit train service involves building trains out of cars which carry large amounts of the same commodity. Unit train traffic typically consists of commodities such as grain, coal, or ethanol that are shipped in very large quantities. In contrast, manifest trains are built of cars carrying different types of commodities.

While railroads have always offered manifest train service, prior to PSR the preference was to build long unit trains and move them as quickly as possible. Although this approach is efficient once a long unit train is built, the issue is that trains would often be cancelled or delayed if there was insufficient freight of the single commodity. This could lead to erratic and unreliable service.

PSR shifts the focus from moving trains to moving cars. Trains are constantly moving throughout the network and cars are picked up on a schedule even if that results in shorter trains. Delays in shipping

---

[5] For more on Hunter Harrison's career, I recommend reading *Railroader*, a biography of Hunter Harrison by Howard Green. A book review of *Railroader* was published on September 20, 2022 on Rational Reflections and The Rational Walk.
[6] A railroad's operating ratio is defined as its operating expenses divided by operating revenue. Lower operating ratios translate into higher profitability.
[7] Union Pacific Announces Unified Plan 2020, press release dated September 17, 2018. The company held a conference call to explain the new operating plan on September 19, 2018.

cars that are ready to travel, referred to in the industry as "car dwell", are reduced and the constant movement of trains throughout the network results in a better balance of crews and rail assets.[8]

In practice, PSR has allowed railroads to significantly cut their labor forces. In addition, fewer rail assets such as locomotives and rail cars are required to move the same amount of freight. The end result is a railroad that has a reduced level of employment and a lower need for ongoing capital expenditures.

PSR has not been without controversy. Critics allege that customers actually receive *poorer service* since manifest trains are often delayed as they are combined into longer configurations. Employees can face greater stress as employment levels are reduced.[9] Labor union complaints related to PSR featured prominently in the dispute that nearly resulted in a nationwide strike earlier this month.[10]

We can see the effect of PSR when it comes to employment levels at Union Pacific shown in the exhibit below. Employment dropped by 10.7% in 2019, the first full year of PSR. While the subsequent steep drop in 2020 was certainly impacted by the pandemic, employment levels have not recovered along with rail traffic. Similar trends are evident at other North American Class I railroads.

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Employment Statistics												
Employee compensation and benefits ($ millions)	2,193	2,048	4,158	3,993	4,533	5,056	4,939	4,779	5,161	5,076	4,807	4,685
Total employees (average)	30,452	29,910	29,905	30,960	37,483	41,967	41,992	42,919	47,457	47,201	46,445	45,928
Compensation and benefits/employee (average) $	**72,015**	**68,472**	**139,040**	**128,973**	**120,935**	**120,476**	**117,618**	**111,349**	**108,751**	**107,540**	**103,499**	**102,007**

Union Pacific annual reports and SEC filings

Definitions of what PSR entails differ between railroads, but we can see improvement in the operating ratio at all of the Class I railroads in recent years. BNSF is the only major railroad that has yet to implement PSR, although its operating ratio has also improved through other efficiency programs.

	1H 2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Burlington Northern Santa Fe	63.9	60.9	61.6	64.5	66.2	66.6	66.4	64.8	70.1	70.3	72.4
Union Pacific	59.8	57.2	59.9	60.6	62.7	61.8	63.7	63.1	63.5	66.1	67.8
CSX	58.7	55.3	58.8	58.4	60.3	67.4	69.4	69.7	71.5	71.1	70.6
Norfolk Southern	61.8	60.1	69.3	64.7	65.4	66.6	69.6	72.8	69.2	71.0	71.7
Kansas City Southern	62.8	70.0	61.9	69.1	63.7	64.3	64.9	66.8	68.6	68.8	68.0
Canadian National	62.8	61.2	65.4	62.5	61.6	57.4	55.9	58.2	61.9	63.4	62.9
Canadian Pacific	65.3	59.9	57.1	59.9	61.3	61.6	61.3	61.0	66.7	78.2	84.4

Source: Company annual reports, websites, and SEC filings

Union Pacific's recent operating history and capital allocation has been heavily influenced by the adoption of PSR. Although this section does not get into the nuts and bolts of PSR, it is important to be aware of the existence of this approach and its transformative effect on the industry in recent years.

[8] Readers may wish to refer to Union Pacific's article on the company's implementation of PSR dated September 17, 2019.
[9] For example, see PSR: Can We Please Be Honest Here? By Matt Parker, July 26, 2021, Railway Age.
[10] The financial media has run several articles on the strike this month. For example: Railroads' Strategy Thrilled Wall Street, but Not Customers and Workers by Niraj Chokshi and Peter Eavis, September 19, 2019, New York Times.

Operating History

The freight railroad business model is relatively straight forward. The capital investments required to build and maintain the network makes it possible to carry freight for customers which represents the railroad's primary source of revenue. Top line revenue growth has been limited over the past decade:

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Operating revenues:												
Freight revenues	11,282	9,781	20,244	18,251	20,243	21,384	19,837	18,601	20,397	22,560	20,684	19,686
Other revenues	847	724	1,560	1,282	1,465	1,448	1,403	1,340	1,416	1,428	1,279	1,240
Total operating revenues	**12,129**	**10,505**	**21,804**	**19,533**	**21,708**	**22,832**	**21,240**	**19,941**	**21,813**	**23,988**	**21,963**	**20,926**

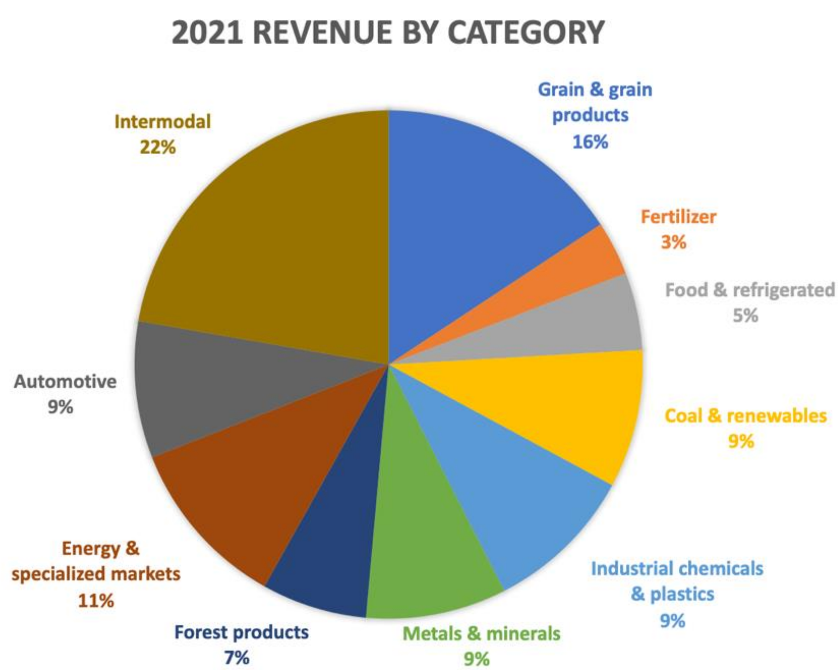
Source: Union Pacific's 10-K and 10-Q reports

Union Pacific reported $20.2 billion of freight revenues in 2021 grouped as follows:

- **Bulk goods** accounted for 32.9 percent of 2021 revenue and include grain products, fertilizer, food products, coal, and renewable products such as biomass and wind turbine components.

- **Industrial products** accounted for 36.2 percent of 2021 revenue and includes construction materials, industrial chemicals, plastics, metals, minerals, forest products, and energy-related products such as petroleum and liquefied natural gas.

- **Premium products** accounted for 30.9 percent of 2021 revenue and includes automotive products and intermodal shipments. The automotive business includes finished vehicles and parts. Union Pacific is the largest automotive carrier west of the Mississippi River.



Source: Union Pacific's 10-K and 10-Q reports

The following exhibit shows the percentage of freight revenue attributable to each major category and product group since 2018. Comparable data are not available prior to 2018 since the company changed its categorization of freight revenue in 2020 and only provided three years of historical data.

	1H 2022	1H 2021	2021	2020	2019	2018
Freight Revenues (Commodity type as % of Total)						
Bulk:						
Grain & grain products	15.5%	16.0%	15.7%	15.5%	13.7%	12.9%
Fertilizer	3.2%	3.6%	3.4%	3.6%	3.2%	3.0%
Food & refrigerated	4.8%	5.0%	4.9%	5.1%	5.0%	5.0%
Coal & renewables	8.9%	7.8%	8.8%	8.4%	10.3%	12.2%
Total Bulk	**32.3%**	**32.3%**	**32.9%**	**32.7%**	**32.3%**	**33.1%**
Industrial:						
Industrial chemicals & plastics	9.5%	9.5%	9.6%	10.1%	9.3%	8.5%
Metals & minerals	9.3%	8.6%	8.9%	8.7%	10.1%	11.8%
Forest products	6.6%	6.8%	6.7%	6.4%	5.7%	5.7%
Energy & specialized markets	10.1%	11.0%	10.9%	11.2%	11.8%	10.0%
Total Industrial	**35.6%**	**35.9%**	**36.2%**	**36.3%**	**36.9%**	**36.0%**
Premium:						
Automotive	9.4%	8.9%	8.7%	9.2%	10.5%	10.2%
Intermodal	22.7%	22.8%	22.2%	21.9%	20.3%	20.8%
Total Premium	**32.1%**	**31.8%**	**30.9%**	**31.1%**	**30.8%**	**31.0%**
Total Freight Revenues	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Union Pacific's 10-K and 10-Q reports

The exhibit below shows the volume of carloads shipped. We can see that nearly half of railcars transported in 2021 were in the premium group which was dominated by the intermodal business. We should note that the automotive business declined significantly in 2020 and has yet to recover to pre-pandemic levels due to supply chain issues. Although carload data are included in quarterly reports, railroads also report carloads on a weekly basis to the Association of American Railroads.

	1H 2022	1H 2021	2021	2020	2019	2018
Revenue Carloads by Commodity Type (Thousands)						
Bulk:						
Grain & grain products	400	407	805	745	708	723
Fertilizer	98	98	201	193	190	194
Food & refrigerated	95	93	189	185	192	206
Coal & renewables	427	372	819	797	997	1,176
Total Bulk	**1,020**	**970**	**2,014**	**1,920**	**2,087**	**2,299**
Industrial:						
Industrial chemicals & plastics	321	296	606	587	611	599
Metals & minerals	387	328	697	646	744	822
Forest products	127	124	250	220	220	241
Energy & specialized markets	272	277	559	539	624	565
Total Industrial	**1,107**	**1,025**	**2,112**	**1,992**	**2,199**	**2,227**
Premium:						
Automotive	382	353	701	692	858	891
Intermodal	1,562	1,674	3,211	3,149	3,202	3,491
Total Premium	**1,944**	**2,027**	**3,912**	**3,841**	**4,060**	**4,382**
Total Carloads	**4,071**	**4,022**	**8,038**	**7,753**	**8,346**	**8,908**

Source: Union Pacific's 10-K and 10-Q reports

Rates charged to carry a carload of freight varies by the type of product and the type of railcar that is being shipped, as we can see from the exhibit below:

	1H 2022	1H 2021	2021	2020	2019	2018
Average Revenue per Car ($)						
Bulk:						
Grain & grain products	4,357	3,838	3,953	3,797	3,919	3,811
Fertilizer	3,701	3,550	3,470	3,427	3,448	3,303
Food & refrigerated	5,703	5,230	5,279	5,047	5,241	5,171
Coal & renewables	2,340	2,051	2,173	1,926	2,098	2,216
Total Bulk	**3,574**	**3,256**	**3,305**	**3,104**	**3,128**	**3,074**
Industrial:						
Industrial chemicals & plastics	3,351	3,153	3,207	3,144	3,087	3,049
Metals & minerals	2,710	2,567	2,598	2,445	2,745	3,067
Forest products	5,898	5,357	5,424	5,269	5,264	5,025
Energy & specialized markets	4,189	3,886	3,956	3,780	3,821	3,772
Total Industrial	**3,626**	**3,430**	**3,467**	**3,324**	**3,398**	**3,452**
Premium:						
Automotive	2,780	2,482	2,511	2,427	2,474	2,438
Intermodal	1,641	1,332	1,403	1,267	1,286	1,276
Total Premium	**1,864**	**1,532**	**1,601**	**1,476**	**1,538**	**1,512**
Average	**2,771**	**2,432**	**2,519**	**2,354**	**2,425**	**2,400**

Source: Union Pacific's 10-K and 10-Q reports

In 2021, intermodal represented 39.9 percent of Union Pacific's physical volume of carloads but generated only 22.2 percent of revenue because the revenue per carload for the intermodal business is the lowest of any type of railcar. It is interesting to note that the company had sufficient pricing power to increase revenue per car across the board during the first half of 2022. Despite physical volume of carloads remaining fairly flat compared to the first half of 2021, freight revenue was up by 15.3 percent due to pricing power, as we can see from the company's income statements at the end of this report.

Since the improvement in the company's operating ratio has driven its operating income growth over the past decade, it is worth delving into the details to understand exactly where the cost savings have come from. The exhibit below shows the components of operating expenses as a percentage of revenue. The sum of all of these categories is the company's operating ratio.

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Operating expenses as % of revenue												
Compensation and benefits	18.1%	19.5%	19.1%	20.4%	20.9%	22.1%	23.3%	24.0%	23.7%	21.2%	21.9%	22.4%
Fuel	13.6%	8.6%	9.4%	6.7%	9.7%	11.1%	8.9%	7.5%	9.2%	14.8%	16.1%	17.2%
Purchased services and materials	9.8%	9.2%	9.2%	10.0%	10.4%	10.7%	11.1%	11.3%	11.1%	10.7%	10.5%	10.2%
Depreciation	9.2%	10.5%	10.1%	11.3%	10.2%	9.6%	9.9%	10.2%	9.2%	7.9%	8.1%	8.4%
Equipment and other rents	3.7%	3.9%	3.9%	4.5%	4.5%	4.7%	4.2%	5.7%	5.6%	5.1%	5.6%	5.7%
Other	5.5%	5.7%	5.4%	6.9%	4.9%	4.5%	4.5%	5.0%	4.2%	3.9%	3.9%	3.8%
Total operating expenses as % of revenue	**59.8%**	**57.5%**	**57.2%**	**59.9%**	**60.6%**	**62.7%**	**61.8%**	**63.7%**	**63.1%**	**63.5%**	**66.1%**	**67.8%**
Operating ratio:	**59.8**	**57.5**	**57.2**	**59.9**	**60.6**	**62.7**	**61.8**	**63.7**	**63.1**	**63.5**	**66.1**	**67.8**

Source: Union Pacific's 10-K and 10-Q reports

Compensation and benefits represent the largest component of operating expenses and has declined significantly as a percentage of revenue due to staff reductions. The number of employees has declined from 45,928 in 2012 to 30,452 in the first half of 2022. Average compensation has increased significantly over the past decade, but the decline in headcount has been the predominant factor. The majority of the staffing reductions have taken place since the company implemented PSR in 2018.

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Employment Statistics												
Employee compensation and benefits ($ millions)	2,193	2,048	4,158	3,993	4,533	5,056	4,939	4,779	5,161	5,076	4,807	4,685
Total employees (average)	30,452	29,910	29,905	30,960	37,483	41,967	41,992	42,919	47,457	47,201	46,445	45,928
Compensation and benefits/employee (average) $	**72,015**	**68,472**	**139,040**	**128,973**	**120,935**	**120,476**	**117,618**	**111,349**	**108,751**	**107,540**	**103,499**	**102,007**

Source: Union Pacific's 10-K and 10-Q reports

Fuel costs vary considerably as a percentage of revenue, but this is deceptive because Union Pacific has fuel surcharge programs in place. When the company collects fuel surcharges, the funds are included in freight revenues while the actual cost of the fuel consumed is reflected as an expense. The following exhibit shows how surcharge revenue insulates the company from a great deal of fuel price variability.

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Fuel Surcharges												
Fuel expense	1,654	908	2,049	1,314	2,107	2,531	1,891	1,489	2,013	3,539	3,534	3,608
Fuel surcharges (included in freight revenues)	1,611	674	1,700	1,000	1,600	1,700	966	560	1,300	2,800	2,600	2,600
Fuel expense less fuel surcharges	**43**	**234**	**349**	**314**	**507**	**831**	**925**	**929**	**713**	**739**	**934**	**1,008**

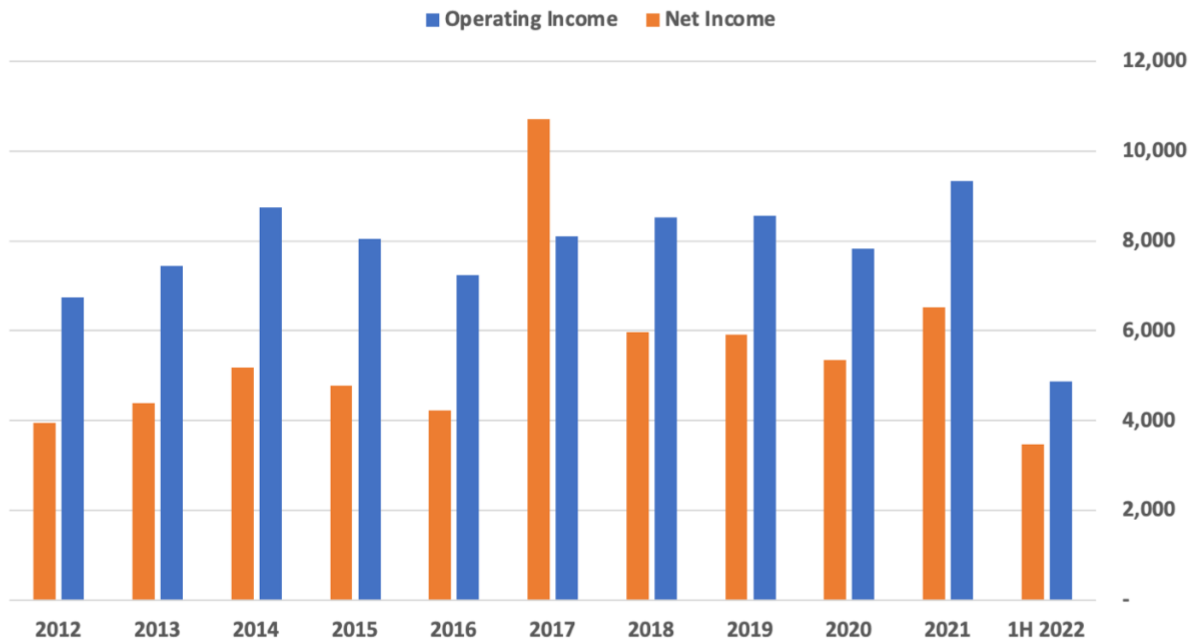
Source: Union Pacific's 10-K and 10-Q reports

The fuel surcharge program operates with a lag of approximately two months. During times of rapid price increases, surcharge revenue will not keep up with actual costs paid for diesel. Conversely, when fuel prices decline precipitously, fuel surcharge revenue will offset a larger percentage of actual costs. Over time, however, the company has successfully blunted the impact of much of the volatility.

Depreciation typically represents 9-10 percent of revenue. Although depreciation is a non-cash cost, it is a very real expense. As we will see in the cash flow generation section, Union Pacific spends more than depreciation charges on maintenance capital expenditures. Depreciation charges are based on the historical cost of the railroad's property which is significantly lower than replacement cost.

Taking a high level view of the company's operating ratio since implementing PSR in 2018, we can see that the bulk of the improvement has been due to lower headcount. The operating ratio improved by 4.6 points between 2017 and 2021. During the same period, compensation and benefits declined by 4.2 points. Fewer locomotives and railcars in the network require fewer employees, but as noted in the previous section on PSR, this has not been without controversy and played a role in the labor dispute that nearly resulted in a nationwide rail strike earlier this month.

The exhibit on the following page shows operating income and net income since 2012. Note that tax cut legislation impacted 2017 net income due to applying the lower tax rate to the company's deferred tax liability. Union Pacific's effective tax rate has declined from 37-38 percent prior to the 2017 tax reform law to 22-23 percent over the past four years.



Source: Union Pacific's 10-K and 10-Q reports

As we will see in the balance sheet section of this report, Union Pacific's debt burden has increased substantially in recent years, and this has resulted in higher interest expense. The exhibit below shows how operating income translated to net income and net income per share over the past decade:

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Operating income	**4,872**	**4,466**	**9,338**	**7,834**	**8,554**	**8,517**	**8,106**	**7,243**	**8,052**	**8,753**	**7,446**	**6,745**
Other income, net	210	176	297	287	243	94	245	221	226	151	128	108
Interest expense	(623)	(572)	(1,157)	(1,141)	(1,050)	(870)	(719)	(698)	(622)	(561)	(526)	(535)
Income before income taxes	**4,459**	**4,070**	**8,478**	**6,980**	**7,747**	**7,741**	**7,632**	**6,766**	**7,656**	**8,343**	**7,048**	**6,318**
Income taxes	(994)	(931)	(1,955)	(1,631)	(1,828)	(1,775)	3,080	(2,533)	(2,884)	(3,163)	(2,660)	(2,375)
Net income	**3,465**	**3,139**	**6,523**	**5,349**	**5,919**	**5,966**	**10,712**	**4,233**	**4,772**	**5,180**	**4,388**	**3,943**
Tax Rate	*22%*	*23%*	*23%*	*23%*	*24%*	*23%*	*-40%*	*37%*	*38%*	*38%*	*38%*	*38%*
Weighted average number of shares, diluted	630.2	664.7	655.4	679.1	706.1	754.3	801.7	835.4	869.4	901.1	931.5	952.9
Earnings per share, diluted	5.50	4.72	9.95	7.88	8.38	7.91	13.36	5.07	5.49	5.75	4.71	4.14

Source: Union Pacific's 10-K and 10-Q reports

Net income per share has increased at a faster clip than net income, rising from $4.14 in 2012 to $9.95 in 2021, due to the share count declining by 31.2 percent over a decade. The company's repurchase plan is discussed in more detail in the capital allocation section.

The operating history of Union Pacific over the past decade can be summed up by describing it as a period of relatively flat revenue coupled with efficiency gains that boosted operating income. While higher interest expense was a downward force on income before taxes, net income benefited from a lower tax rate. Finally, the reduction in share count driven by the company's repurchase program had a very positive impact on earnings per share.

Balance Sheet Review

The following exhibit is a condensed version of Union Pacific's balance sheets over the past decade that will help us make some observations about the company's capital structure:

Figures in millions	6/30/22	12/31/21	12/31/20	12/31/19	12/31/18	12/31/17	12/31/16	12/31/15	12/31/14	12/31/13	12/31/12
Condensed Balance Sheets											
ASSETS											
Current assets	3,976	3,551	4,214	3,459	4,163	4,006	3,596	4,130	4,679	3,990	3,614
Investments	2,287	2,241	2,164	2,050	1,912	1,809	1,457	1,410	1,390	1,321	1,259
Properties, net	55,315	54,871	54,161	53,916	52,679	51,605	50,389	48,866	46,272	43,749	41,997
Other assets	2,862	2,862	1,859	2,248	393	386	276	194	375	671	283
TOTAL ASSETS	**64,440**	**63,525**	**62,398**	**61,673**	**59,147**	**57,806**	**55,718**	**54,600**	**52,716**	**49,731**	**47,153**
LIABILITIES AND EQUITY											
Accounts payable and other current liabilities	3,668	3,578	3,104	3,094	3,160	3,139	2,882	2,612	3,303	3,086	2,923
Debt due within one year	2,334	2,166	1,069	1,257	1,466	800	758	594	462	705	196
Total current liabilities	6,002	5,744	4,173	4,351	4,626	3,939	3,640	3,206	3,765	3,791	3,119
Deferred income taxes	12,777	12,675	12,247	11,992	11,302	10,936	15,996	15,241	14,680	14,163	13,108
Long-term debt	29,673	27,563	25,660	23,943	20,925	16,144	14,249	13,607	11,018	8,872	8,801
Other long-term liabilities	3,278	3,382	3,360	3,259	1,871	1,931	1,901	1,844	2,064	1,680	2,248
Total liabilities	51,730	49,364	45,440	43,545	38,724	32,950	35,786	33,898	31,527	28,506	27,276
Equity	**12,710**	**14,161**	**16,958**	**18,128**	**20,423**	**24,856**	**19,932**	**20,702**	**21,189**	**21,225**	**19,877**
TOTAL LIABILITIES AND EQUITY	**64,440**	**63,525**	**62,398**	**61,673**	**59,147**	**57,806**	**55,718**	**54,600**	**52,716**	**49,731**	**47,153**
Shares outstanding (2-for-1 stock split on (6/6/2014)	625.2	638.8	671.4	692.1	725.1	780.9	815.8	849.2	883.4	912.0	938.9
Change in shares outstanding	*-2.1%*	*-4.8%*	*-3.0%*	*-4.5%*	*-7.2%*	*-4.3%*	*-3.9%*	*-3.9%*	*-3.1%*	*-2.9%*	
Book value per share	20.33	22.17	25.26	26.19	28.17	31.83	24.43	24.38	23.99	23.27	21.17
Total Debt	32,007	29,729	26,729	25,200	22,391	16,944	15,007	14,201	11,480	9,577	8,997
Total Capital	44,717	43,890	43,687	43,328	42,814	41,800	34,939	34,903	32,669	30,802	28,874
Debt as a percentage of total capital	*71.6%*	*67.7%*	*61.2%*	*58.2%*	*52.3%*	*40.5%*	*43.0%*	*40.7%*	*35.1%*	*31.1%*	*31.2%*

Source: Union Pacific's 10-K and 10-Q reports

Property and equipment drove the increase in assets over the past decade. The overall size of the network has not increased substantially, but the replacement cost of track structures, locomotives, and freight cars is higher than the historical cost of such assets on the balance sheet.

Total debt rose from $9 billion as of December 31, 2012 to $32 billion as of June 30, 2022 while equity declined from $19.9 billion to $12.7 billion over the same period. Management has added substantially more leverage to the balance sheet. Management's calculation of the ratio of adjusted debt to adjusted EBITDA is shown in the exhibit below which was taken from the company's latest 10-Q:

Adjusted Debt / Adjusted EBITDA

Millions, Except Ratios for the Trailing Twelve Months Ended [a]	***Jun. 30, 2022***	*Dec. 31, 2021*
Net income	**$ 6,849**	$ 6,523
Add:		
Income tax expense	**2,018**	1,955
Depreciation	**2,223**	2,208
Interest expense	**1,208**	1,157
EBITDA	**$ 12,298**	$ 11,843
Adjustments:		
Other income, net	**(331)**	(297)
Interest on operating lease liabilities [b]	**51**	56
Adjusted EBITDA	**$ 12,018**	$ 11,602
Debt	**$ 32,007**	$ 29,729
Operating lease liabilities	**1,609**	1,759
Unfunded/(funded) pension and OPEB, net of tax cost/(benefit) of ($33) and ($21) [c]	**(113)**	(72)
Adjusted debt	**$ 33,503**	$ 31,416
Adjusted debt / Adjusted EBITDA	**2.8**	2.7

Source: Union Pacific's Second Quarter 2022 10-Q report

Debt service and near term debt maturities are clearly manageable using free cash flow, and there is no reason to believe that Union Pacific would run into difficulty refinancing maturing debt. Nevertheless, the change in the capital structure over the past decade raises questions that will be given additional consideration in the capital allocation section.

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

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

Source: Union Pacific's Second Quarter 2022 10-Q report

Given the importance of a railroad's properties, it is interesting to take a moment to drill down into the breakdown of the property account:

Figures in millions	6/30/22	12/31/21	12/31/20	12/31/19	12/31/18	12/31/17	12/31/16	12/31/15	12/31/14	12/31/13	12/31/12
Properties by Net Book Value											
Land	**5,333**	**5,339**	**5,246**	**5,276**	**5,264**	**5,258**	**5,220**	**5,195**	**5,194**	**5,120**	**5,105**
Road:											
Rail and other track material	11,240	11,136	10,989	10,797	10,629	10,398	10,123	9,741	9,347	8,891	8,464
Ties	7,933	7,848	7,720	7,507	7,384	7,251	7,076	6,844	6,652	6,475	6,247
Ballast	4,237	4,218	4,173	4,083	3,966	3,897	3,812	3,674	3,562	3,450	3,314
Other roadway	17,134	16,936	16,701	16,275	15,818	15,490	14,912	14,353	13,624	12,870	12,223
Total Road	**40,544**	**40,138**	**39,583**	**38,662**	**37,797**	**37,036**	**35,923**	**34,612**	**33,185**	**31,686**	**30,248**
Equipment											
Locomotives	5,541	5,592	5,820	6,033	5,931	5,989	5,753	5,301	4,582	4,037	3,976
Freight cars	1,545	1,405	1,329	1,304	1,300	1,272	1,271	1,241	1,148	1,085	973
Work equipment and other	747	750	756	759	739	669	673	706	531	442	446
Total Equipment	**7,833**	**7,747**	**7,905**	**8,096**	**7,970**	**7,930**	**7,697**	**7,248**	**6,261**	**5,564**	**5,395**
Technology and other	729	686	679	633	624	645	562	561	552	425	360
Construction in progress	876	961	748	1,249	1,024	736	987	1,250	1,080	954	889
Total	**55,315**	**54,871**	**54,161**	**53,916**	**52,679**	**51,605**	**50,389**	**48,866**	**46,272**	**43,749**	**41,997**
Capex during period	1,645	2,936	2,927	3,453	3,437	3,238	3,505	4,650	4,346	3,496	3,738
Capex as % of prior year's net property balance	*3%*	*5%*	*5%*	*7%*	*7%*	*6%*	*7%*	*10%*	*10%*	*8%*	
Depreciation during period	1,114	2,208	2,210	2,216	2,191	2,105	2,038	2,012	1,904	1,777	1,760
Depreciation as % of prior year's net property balance	*2%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	*4%*	

Source: Union Pacific's 10-K and 10-Q reports

Book value of $5.3 billion for land, which is not subject to depreciation, is carried at historical cost and is no doubt far below replacement value. The bulk of Union Pacific's property account is related to the actual physical infrastructure of the railroad which obviously includes the rail itself, the perpendicular wooden or concrete railroad ties, and ballast forming the foundation of the track system. All of these elements require regular replacement. The remaining property accounts include locomotives, freight cars, and related equipment and infrastructure needed in rail yards.

The exhibit above also shows capital expenditures and depreciation during each period as a percentage of the prior year's net property balance. As mentioned previously, capital expenditures regularly exceed depreciation charges.

Cash Flow Generation

It is useful to take a long-term perspective when evaluating Union Pacific's cash flow generation capabilities. This section evaluates the company's cash flow statements from 2012 to 1H 2022. During this period, Union Pacific posted $60.5 billion of net income and $81.5 billion of operating cash flow. Subtracting net capital investments from operating cash flow results in $45.6 billion of free cash flow.

The exhibit below shows my estimate of free cash flow over the past decade:

Figures in millions	1H 2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	Totals 2012 - 1H 2022
Free cash flow:												
Cash flows from operations	4,167	9,032	8,540	8,609	8,686	7,230	7,525	7,344	7,385	6,823	6,161	81,502
Less cash used for capital investments	(1,645)	(2,936)	(2,927)	(3,453)	(3,437)	(3,238)	(3,505)	(4,650)	(4,346)	(3,496)	(3,738)	(37,371)
Plus cash proceeds from asset sales	120	178	149	74	63	168	129	251	138	98	80	1,448
Free cash flow	**2,642**	**6,274**	**5,762**	**5,230**	**5,312**	**4,160**	**4,149**	**2,945**	**3,177**	**3,425**	**2,503**	**45,579**

Source: 10-K and 10-Q reports

The reason that free cash flow during this period is only 75 percent of net income is because depreciation is based on the historical cost of the company's property base and replacement costs are higher than historical cost due to inflation. While the company recorded cumulative depreciation of $21.5 billion, it took $37.4 billion of capital expenditures to maintain the system. Union Pacific does undertake some expansion projects, but the vast majority of capex can be considered maintenance.

The exhibit below shows the detail behind the $37.4 billion of capex:

Figures in millions	1H 2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	Totals 2012 - 1H 2022
Capital Investment Details:												
Road Infrastructure Replacements:												
Rail and other track materials	263	507	471	561	608	619	628	734	749	743	759	6,642
Ties	236	443	507	427	444	480	494	455	415	438	434	4,773
Ballast	98	215	225	271	216	231	235	233	204	226	203	2,357
Other (bridges, tunnels, signals, road work equipment, and other road assets)	290	700	584	694	576	503	480	438	378	326	312	5,281
Total Road Infrastructure Replacements	**887**	**1,865**	**1,787**	**1,953**	**1,844**	**1,833**	**1,837**	**1,860**	**1,746**	**1,733**	**1,708**	**19,053**
Capacity and Commercial Facilities:												
Line expansion and other capacity projects	159	284	332	357	286	124	153	457	515	455	489	3,611
Commercial facilities	89	243	171	183	234	189	152	227	217	146	169	2,020
Total Capacity and Commercial Facilities	**248**	**527**	**503**	**540**	**520**	**313**	**305**	**684**	**732**	**601**	**658**	**5,631**
Locomotives and freight cars	345	322	269	610	716	607	854	1,436	1,067	580	875	7,681
Positive train control	-	84	79	95	158	336	371	381	384	419	349	2,656
Technology and other	165	138	289	255	199	149	138	289	417	163	148	2,350
Total cash capital investments	**1,645**	**2,936**	**2,927**	**3,453**	**3,437**	**3,238**	**3,505**	**4,650**	**4,346**	**3,496**	**3,738**	**37,371**

Source: 10-K and 10-Q reports

Capital investments have been trending down in recent years, with a significant decline in 2020 and 2021. Management has provided guidance for full-year 2022 capital spending of $3.3 billion.[11] Since we have a significant amount of detail for capital expenditures, let's briefly review the drivers of the decline that has taken place over the past few years.

---

[11] Second quarter 2022 earnings press release, July 21, 2022.

Road infrastructure replacements constitute the materials and labor required to keep trains running on the company's 32,452 mile network. We can see that such costs are fairly consistent over time running at between $1.7 to $1.9 billion per year. In 2021, the company replaced 502 miles of track, expanded the network by 70 miles, resurfaced 10,441 miles of track, and installed over 4 million new ties.[12]

Spending on locomotives and freight cars declined in recent years. At least part of this decline is due to Union Pacific's adoption of PSR in 2018 because the number of locomotives and freight cars needed in the system has been reduced significantly. Owned locomotives declined from 6,652 to 6,377 units between December 31, 2017 and December 31, 2021. Owned Freight Cars declined from 34,597 to 30,012 units during the same period. The average age of locomotives has increased over this period.[13]

Is it possible to judge whether Union Pacific is investing adequately in capital expenditures needed to maintain the railroad in good operating condition? Given the very long-lived nature of the company's assets, this is a question worth asking since it would be possible for management to underinvest for some time before adverse results are widely seen. Deferred maintenance is a potential concern.

From an outside perspective, there are limits to how much insight we can gain into the company's capital investments. I have not spoken to industry insiders or conducted scuttlebutt to see what people within Union Pacific are saying. However, I have recently analyzed BNSF which is a very close peer in terms of geographic footprint and size.[14] Over the same ten-and-a-half period presented in this section for Union Pacific, BNSF spent $39.6 billion on capital expenditures.

Although BNSF does not release as much detail as Union Pacific regarding the components of capex, the total amount is quite similar. BNSF is owned by Berkshire Hathaway and has no public market pressure to meet shareholder expectations in terms of earnings, free cash flow, or distributions. Warren Buffett certainly has given BNSF management directions to ensure that the network is maintained properly.

Given that Union Pacific and BNSF have invested very similar amounts and have similarly sized networks, it seems likely that Union Pacific is not dramatically underinvesting. As a result, I have confidence that my estimate of free cash flow is not far from reality. In the next section, we turn our attention to how Union Pacific's management has allocated free cash flow for the benefit of the company's shareholders.

[12] Union Pacific 2021 Fact Book, Key Metrics and Facts
[13] Data taken from Union Pacific Fact Books and are also available in annual reports.
[14] Burlington Northern: A Review of Berkshire Hathaway's Twelve Years of Ownership, August 25, 2022.

Capital Allocation

If we are confident that Union Pacific has not been shortchanging investments in property and equipment needed to maintain the railroad, we should consider free cash flow to be distributable to shareholders. Management has in fact fully distributed all free cash flow generated by the business over the past decade. In addition, as we discussed in the balance sheet section, management has increased debt significantly which has been used to return even more cash to shareholders.

The exhibit below shows the company's free cash flow, net debt issued, and cash returned to shareholders since 2012:

Figures in millions	1H 2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	Totals 2012 - 1H 2022
Free cash flow:												
Cash flows from operations	4,167	9,032	8,540	8,609	8,686	7,230	7,525	7,344	7,385	6,823	6,161	81,502
Less cash used for capital investments	(1,645)	(2,936)	(2,927)	(3,453)	(3,437)	(3,238)	(3,505)	(4,650)	(4,346)	(3,496)	(3,738)	(37,371)
Plus cash proceeds from asset sales	120	178	149	74	63	168	129	251	138	98	80	1,448
Free cash flow	**2,642**	**6,274**	**5,762**	**5,230**	**5,312**	**4,160**	**4,149**	**2,945**	**3,177**	**3,425**	**2,503**	**45,579**
FCF as % of Net Income	*76%*	*96%*	*108%*	*88%*	*89%*	*39%*	*98%*	*62%*	*61%*	*78%*	*63%*	*75%*
Net Debt Issued:												
Debt issued	4,090	4,201	4,004	3,986	6,892	2,735	1,983	3,328	2,588	1,443	695	35,945
Less debt repaid	(1,664)	(1,299)	(2,053)	(817)	(1,736)	(840)	(1,013)	(556)	(710)	(640)	(758)	(12,086)
Less cash effects of debt exchange	-	(270)	(328)	(387)	-	-	(191)	-	-	(289)	-	(1,465)
Net Debt Issued	**2,426**	**2,632**	**1,623**	**2,782**	**5,156**	**1,895**	**779**	**2,772**	**1,878**	**514**	**(63)**	**22,394**
Cash Returned to Shareholders:												
Dividends	1,556	2,800	2,626	2,598	2,299	1,982	1,879	2,344	1,632	1,333	1,146	22,195
Repurchases	3,473	7,291	3,705	5,804	8,225	4,013	3,105	3,465	3,225	2,218	1,474	45,998
Total Cash Returned to Shareholders	**5,029**	**10,091**	**6,331**	**8,402**	**10,524**	**5,995**	**4,984**	**5,809**	**4,857**	**3,551**	**2,620**	**68,193**

Source: 10-K and 10-Q reports

In the ten-and-a-half years presented in the exhibit, Union Pacific generated $45.6 billion of free cash flow and issued $22.4 billion of debt. These sources of cash add up to $68 billion which is almost exactly equal to the $68.2 billion that has been returned to shareholders.

Union Pacific's quarterly dividend has more than quadrupled from a split-adjusted $0.30 per share to $1.30 per share, but the declining share count has caused the total dollars distributed as dividends to increase at a slower pace, rising from $1.1 billion in 2012 to $2.8 billion in 2022. Management has allocated more than twice the amount of dividend payments to share repurchases.

As noted in the operating summary, the declining share count has turbocharged net income per share, but it is important to view this in the context of the additional leverage required to achieve the share count reduction. Management expects to continue "leading the industry" in terms of dividend payouts and plans for full-year share repurchases "on par with 2021".[15]

[15] CFO Jennifer Hamann's comments during Union Pacific's second quarter 2022 conference call.

Conclusion

This report has provided an overview of Union Pacific's business operations, balance sheet structure, cash flow generation capabilities, and capital allocation over the past decade. What high-level conclusions can we draw about the state of the business and prospects for the future?

In order to answer this question, it is useful to start at the top line. Revenue growth has been lacking over the past decade, not only for Union Pacific but for BNSF, its main competitor in an industry that is essentially a duopoly. While it is true that railroads compete with trucking for market share, I do not see convincing signs that railroads are on the cusp of taking major share gains from trucking.

In 2021, BNSF and Union Pacific had *combined* freight revenue of $42.1 billion compared to $41 billion in 2012. Individually and in combination, revenue growth at both railroads has lagged nominal GDP growth over the past decade. While it is difficult to forecast revenue growth over the next decade, it does not seem plausible to believe that gains in excess of nominal GDP growth is likely.

As described in the sections on Precision Scheduled Railroading and operating history, Union Pacific made significant improvements in efficiency, and this has led to a lower operating ratio. The lower operating ratio drove increasing operating income profitability. The impact of the 2017 tax reform law boosted net income. A lower share count boosted net income per share even more.

The question is how many of these factors are repeatable. If revenue growth is muted, is it possible for Union Pacific to further reduce the operating ratio? From 2012 to 2022, the operating ratio fell from 67.8 percent to 57.2 percent. While management aspires to reduce the operating ratio to 55, it does not seem plausible that the operating ratio could drop much further beyond that. In fact, labor union problems could result in a reversal of recent reductions in compensation as a percentage of revenue.

If revenue remains relatively flat and the operating ratio does not improve significantly, net income is unlikely to make major advances, but net income per share could still advance if the company's repurchase program continues. While management may continue deploying free cash flow toward repurchases, it seems unlikely that debt will continue to be added to fund further repurchases, as has been the case over the past decade. We might expect net income per share to advance slightly faster than net income, but not at the pace seen over the past decade.

Union Pacific holds an enviable position in the nation's transportation system and the stock has performed very well over the past decade. Although it is not the goal of this report to comment on valuation, it seems prudent to conclude with the observation that sustaining such performance will be significantly more challenging over the coming decade.

Financial Statements

Balance Sheets

Figures in millions	6/30/22	12/31/21	12/31/20	12/31/19	12/31/18	12/31/17	12/31/16	12/31/15	12/31/14	12/31/13	12/31/12
ASSETS											
Current assets:											
Cash and cash equivalents	788	960	1,799	831	1,273	1,275	1,277	1,391	1,586	1,432	1,063
Short-term investments	46	46	60	60	60	90	60	-	-	-	-
Accounts receivable, net	2,052	1,722	1,505	1,595	1,755	1,493	1,258	1,356	1,611	1,414	1,331
Materials and supplies	790	621	638	751	742	749	717	736	712	653	660
Current deferred income taxes	-	-	-	-	-	-	-	-	277	268	263
Other current assets	300	202	212	222	333	399	284	647	493	223	297
Total current assets	3,976	3,551	4,214	3,459	4,163	4,006	3,596	4,130	4,679	3,990	3,614
Investments	2,287	2,241	2,164	2,050	1,912	1,809	1,457	1,410	1,390	1,321	1,259
Properties, net	55,315	54,871	54,161	53,916	52,679	51,605	50,389	48,866	46,272	43,749	41,997
Operating lease assets	1,706	1,787	1,610	1,812	-	-	-	-	-	-	-
Other assets	1,156	1,075	249	436	393	386	276	194	375	671	283
Total assets	**64,440**	**63,525**	**62,398**	**61,673**	**59,147**	**57,806**	**55,718**	**54,600**	**52,716**	**49,731**	**47,153**
LIABILITIES AND COMMON SHAREHOLDERS' EQUITY											
Current liabilities:											
Accounts payable and other current liabilities	3,668	3,578	3,104	3,094	3,160	3,139	2,882	2,612	3,303	3,086	2,923
Debt due within one year	2,334	2,166	1,069	1,257	1,466	800	758	594	462	705	196
Total current liabilities	6,002	5,744	4,173	4,351	4,626	3,939	3,640	3,206	3,765	3,791	3,119
Debt due after one year	29,673	27,563	25,660	23,943	20,925	16,144	14,249	13,607	11,018	8,872	8,801
Operating lease liabilities	1,295	1,429	1,283	1,471	-	-	-	-	-	-	-
Deferred income taxes	12,777	12,675	12,247	11,992	11,302	10,936	15,996	15,241	14,680	14,163	13,108
Other long-term liabilities	1,983	1,953	2,077	1,788	1,871	1,931	1,901	1,844	2,064	1,680	2,248
Total liabilities	51,730	49,364	45,440	43,545	38,724	32,950	35,786	33,898	31,527	28,506	27,276
Common shareholders' equity:											
Common shares	2,781	2,781	2,781	2,780	2,779	2,778	2,777	2,776	2,775	2,774	1,386
Paid-in surplus	5,030	4,979	4,864	4,523	4,449	4,476	4,421	4,417	4,321	4,210	4,113
Retained earnings	56,958	55,049	51,326	48,605	45,284	41,317	32,587	30,233	27,367	23,901	22,271
Treasury stock	(51,218)	(47,734)	(40,420)	(36,424)	(30,674)	(22,574)	(18,581)	(15,529)	(12,064)	(8,910)	(6,707)
Accumulated other comprehensive income (loss)	(841)	(914)	(1,593)	(1,356)	(1,415)	(1,141)	(1,272)	(1,195)	(1,210)	(750)	(1,186)
Total common shareholders' equity	12,710	14,161	16,958	18,128	20,423	24,856	19,932	20,702	21,189	21,225	19,877
Total liabilities and common shareholders' equity	**64,440**	**63,525**	**62,398**	**61,673**	**59,147**	**57,806**	**55,718**	**54,600**	**52,716**	**49,731**	**47,153**
	-	-	-	-	-	-	-	-	-	-	-
Shares outstanding (2-for-1 stock split on (6/6/2014)	625.2	638.8	671.4	692.1	725.1	780.9	815.8	849.2	883.4	912.0	938.9
Book value per share	20.33	22.17	25.26	26.19	28.17	31.83	24.43	24.38	23.99	23.27	21.17
Change in shares outstanding	*-2%*	*-5%*	*-3%*	*-5%*	*-7%*	*-4%*	*-4%*	*-4%*	*-3%*	*-3%*	

Source: Union Pacific 10-Q and 10-K SEC Filings

Income Statements

Figures in millions	1H 2022	1H 2021	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Operating revenues:												
Freight revenues	11,282	9,781	20,244	18,251	20,243	21,384	19,837	18,601	20,397	22,560	20,684	19,686
Other revenues	847	724	1,560	1,282	1,465	1,448	1,403	1,340	1,416	1,428	1,279	1,240
Total operating revenues	**12,129**	**10,505**	**21,804**	**19,533**	**21,708**	**22,832**	**21,240**	**19,941**	**21,813**	**23,988**	**21,963**	**20,926**
Operating expenses:												
Compensation and benefits	2,193	2,048	4,158	3,993	4,533	5,056	4,939	4,779	5,161	5,076	4,807	4,685
Fuel	1,654	908	2,049	1,314	2,107	2,531	1,891	1,489	2,013	3,539	3,534	3,608
Purchased services and materials	1,183	968	2,016	1,962	2,254	2,443	2,363	2,258	2,421	2,558	2,315	2,143
Depreciation	1,114	1,099	2,208	2,210	2,216	2,191	2,105	2,038	2,012	1,904	1,777	1,760
Equipment and other rents	445	412	859	875	984	1,072	888	1,137	1,230	1,234	1,235	1,197
Other	668	604	1,176	1,345	1,060	1,022	948	997	924	924	849	788
Total operating expenses	**7,257**	**6,039**	**12,466**	**11,699**	**13,154**	**14,315**	**13,134**	**12,698**	**13,761**	**15,235**	**14,517**	**14,181**
Operating income	**4,872**	**4,466**	**9,338**	**7,834**	**8,554**	**8,517**	**8,106**	**7,243**	**8,052**	**8,753**	**7,446**	**6,745**
Other income, net	210	176	297	287	243	94	245	221	226	151	128	108
Interest expense	(623)	(572)	(1,157)	(1,141)	(1,050)	(870)	(719)	(698)	(622)	(561)	(526)	(535)
Income before income taxes	**4,459**	**4,070**	**8,478**	**6,980**	**7,747**	**7,741**	**7,632**	**6,766**	**7,656**	**8,343**	**7,048**	**6,318**
Income taxes	(994)	(931)	(1,955)	(1,631)	(1,828)	(1,775)	3,080	(2,533)	(2,884)	(3,163)	(2,660)	(2,375)
Net income	**3,465**	**3,139**	**6,523**	**5,349**	**5,919**	**5,966**	**10,712**	**4,233**	**4,772**	**5,180**	**4,388**	**3,943**
Weighted average number of shares, diluted	630.2	664.7	655.4	679.1	706.1	754.3	801.7	835.4	869.4	901.1	931.5	952.9
Earnings per share, diluted	5.50	4.72	9.95	7.88	8.38	7.91	13.36	5.07	5.49	5.75	4.71	4.14
Operating expenses as % of revenue												
Compensation and benefits	18.1%	19.5%	19.1%	20.4%	20.9%	22.1%	23.3%	24.0%	23.7%	21.2%	21.9%	22.4%
Fuel	13.6%	8.6%	9.4%	6.7%	9.7%	11.1%	8.9%	7.5%	9.2%	14.8%	16.1%	17.2%
Purchased services and materials	9.8%	9.2%	9.2%	10.0%	10.4%	10.7%	11.1%	11.3%	11.1%	10.7%	10.5%	10.2%
Depreciation	9.2%	10.5%	10.1%	11.3%	10.2%	9.6%	9.9%	10.2%	9.2%	7.9%	8.1%	8.4%
Equipment and other rents	3.7%	3.9%	3.9%	4.5%	4.5%	4.7%	4.2%	5.7%	5.6%	5.1%	5.6%	5.7%
Other	5.5%	5.7%	5.4%	6.9%	4.9%	4.5%	4.5%	5.0%	4.2%	3.9%	3.9%	3.8%
Total operating expenses as % of revenue	**59.8%**	**57.5%**	**57.2%**	**59.9%**	**60.6%**	**62.7%**	**61.8%**	**63.7%**	**63.1%**	**63.5%**	**66.1%**	**67.8%**
Operating ratio:	**59.8**	**57.5**	**57.2**	**59.9**	**60.6**	**62.7**	**61.8**	**63.7**	**63.1**	**63.5**	**66.1**	**67.8**

Source: Union Pacific 10-Q and 10-K SEC Filings

Cash Flow Statements

Figures in millions	1H 2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	Totals 2012 - 1H 2022
Operating Activities:												
Net income	**3,465**	**6,523**	**5,349**	**5,919**	**5,966**	**10,712**	**4,233**	**4,772**	**5,180**	**4,388**	**3,943**	**60,450**
Adjustments to reconcile net income to cash provided by operating activities:												
Depreciation	1,114	2,208	2,210	2,216	2,191	2,105	2,038	2,012	1,904	1,777	1,760	21,535
Deferred and other income taxes	93	154	340	566	338	(5,067)	831	765	895	723	887	525
Gain on non-operating asset dispositions	-	(98)	(115)	(20)	(30)	(111)	(94)	(144)	(69)	(32)	-	(713)
Other operating activities, net	(52)	42	490	98	347	(282)	(228)	116	(216)	(194)	(160)	(39)
Changes in current assets and liabilities:												-
Accounts receivable, net	(330)	(217)	90	160	(262)	(235)	98	255	(197)	(83)	70	(651)
Materials and supplies	(169)	17	113	(9)	7	(32)	19	(24)	(59)	7	(46)	(176)
Other current assets	(39)	31	(34)	87	(24)	9	22	(47)	(35)	1	(108)	(137)
Accounts payable and other current liabilities	203	184	(73)	(179)	(125)	182	232	(276)	295	40	(185)	298
Income and other taxes	(118)	188	170	(229)	278	(51)	374	(85)	(313)	196	-	410
Cash provided by operating activities	**4,167**	**9,032**	**8,540**	**8,609**	**8,686**	**7,230**	**7,525**	**7,344**	**7,385**	**6,823**	**6,161**	**81,502**
Investing Activities:												
Capital investments	(1,645)	(2,936)	(2,927)	(3,453)	(3,437)	(3,238)	(3,505)	(4,650)	(4,346)	(3,496)	(3,738)	(37,371)
Proceeds from asset sales	120	178	149	74	63	168	129	251	138	98	80	1,448
Maturities of short-term investments	-	94	141	130	90	90	520	-	-	-	-	1,065
Purchases of short-term investments	-	(70)	(136)	(115)	(90)	(120)	(580)	-	-	-	-	(1,111)
Acquisition of equipment pending financing	-	-	-	-	-	-	-	-	-	-	(274)	(274)
Proceeds from sale of assets financed	-	-	-	-	-	-	-	-	-	-	274	274
Other investing activities, net	(15)	25	97	(71)	(37)	14	43	(77)	(41)	(7)	25	(44)
Cash used in investing activities	**(1,540)**	**(2,709)**	**(2,676)**	**(3,435)**	**(3,411)**	**(3,086)**	**(3,393)**	**(4,476)**	**(4,249)**	**(3,405)**	**(3,633)**	**(36,013)**
Financing Activities:												
Debt issued	4,090	4,201	4,004	3,986	6,892	2,735	1,983	3,328	2,588	1,443	695	35,945
Share repurchase programs	(3,473)	(7,291)	(3,705)	(5,804)	(8,225)	(4,013)	(3,105)	(3,465)	(3,225)	(2,218)	(1,474)	(45,998)
Debt repaid	(1,664)	(1,299)	(2,053)	(817)	(1,736)	(840)	(1,013)	(556)	(710)	(640)	(758)	(12,086)
Dividends paid	(1,556)	(2,800)	(2,626)	(2,598)	(2,299)	(1,982)	(1,879)	(2,344)	(1,632)	(1,333)	(1,146)	(22,195)
Net issued/(paid) commercial paper	(151)	325	(127)	(6)	194	-	-	-	-	-	-	235
Accelerated share repurchase programs pending final settlement	-	-	-	-	-	-	-	-	-	-	-	-
Debt exchange	-	(270)	(328)	(387)	-	-	(191)	-	-	(289)	-	(1,465)
Other financing activities, net	(42)	(24)	(67)	(20)	(48)	(46)	(41)	(26)	(3)	(12)	1	(328)
Cash provided by (used in) financing activities	**(2,796)**	**(7,158)**	**(4,902)**	**(5,646)**	**(5,222)**	**(4,146)**	**(4,246)**	**(3,063)**	**(2,982)**	**(3,049)**	**(2,682)**	**(45,892)**
Net change in cash, cash equivalents, and restricted cash	(169)	(835)	962	(472)	53	(2)	(114)	(195)	154	369	(154)	(403)
Cash, cash equivalents, and restricted cash at beginning of year	983	1,818	856	1,328	1,275	1,277	1,391	1,586	1,432	1,063	1,217	1,217
Cash, cash equivalents, and restricted cash at end of year	**814**	**983**	**1,818**	**856**	**1,328**	**1,275**	**1,277**	**1,391**	**1,586**	**1,432**	**1,063**	**814**

Source: Union Pacific 10-Q and 10-K SEC Filings