

BEFORE THE
SURFACE TRANSPORTATION BOARD

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RAILROAD COST OF CAPITAL-2021) EP 558 (Sub-No. 25)

**REPLY STATEMENT
OF THE WESTERN COAL TRAFFIC LEAGUE**

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Pursuant to the notice that the Surface Transportation Board (“STB” or “Board”) served in the above-captioned proceeding on February 5, 2022, the Western Coal Traffic League (“WCTL”)¹ replies to the opening statement that the Association of American Railroads (“AAR” or “Railroads”) filed on April 19, 2022.

As explained below, the values submitted by the AAR are overstated due to the continued reliance on the Multi-Stage Discounted Cash Flow (“MSDCF”) model. Reliance exclusively on the Capital Asset Pricing Model (“CAPM”), together with a current Market Risk Premium (“MRP”), results in reliable and stable values that very closely approximate reliable benchmarks. The railroads’ implementation of Precision Scheduled Railroading (“PSR”) creates further distortion in the MSDCF. The distortions effectively reward the carriers for failing to invest in their operations and facilitate further underinvestment. The Board should rely on the CAPM and not the MSDCF.

¹ WCTL is a voluntary association, whose regular membership consists entirely of shippers of coal mined west of the Mississippi River that is transported by rail. WCTL members currently ship and receive in excess of 90 million tons of coal by rail each year. WCTL’s members are: Ameren Missouri, Arizona Electric Power Cooperative, Inc., Austin Energy (City of Austin, Texas), CLECO Corporation, CPS Energy, Entergy Services, Inc., Evergy, Inc., Lower Colorado River Authority, MidAmerican Energy Company, Minnesota Power, Nebraska Public Power District, and Western Fuels Association, Inc.

I. The AAR's Cost of Capital value is overstated and reflects established flaws, especially in the MSDCF Cost of Equity.

WCTL's review of the AAR's filing and the associated workpapers does not reveal any mathematical or associated data errors (beyond those that WCTL has noted, and the Board has rejected, previously). WCTL concurs in the removal of KCS from the composite sample. Nonetheless, the AAR's estimate for the cost of capital ("COC") value of 10.37% for 2021 represents a substantial (31%) and inherently implausible increase from the 7.89% value that the Board determined for 2020.

The various events of 2021, including the continuing pandemic, the economic recovery, and the return of inflation, do not provide an adequate explanation for the increase in the COC. In particular, the cost of debt increased from 2020 to 2021 by only 9 basis points (from 2.54% to 2.63%), the risk-free rate (yield on 20-year Treasury bonds) for the CAPM increased by 63 basis points (from 1.35% to 1.98%), the historical Market Risk Premium ("MRP") for the CAPM increased by 21 basis points (from 7.25% to 7.46%), the beta for the CAPM actually decreased (from 1.0741 to 1.0704) for the eighth straight year, and the Cost of Equity ("COE") of the CAPM increased by only 83 basis points (from 9.14% to 9.97%). None of these factors begins to explain the magnitude of the surge in the overall COC.

The readily apparent cause of the COC surge is the increase in the value for the COE adduced by the Board's MSDCF model. The MSDCF COE rose from 9.52% in 2020 to 14.09% in 2021, an increase of 457 basis points or 48%. The MSDCF increase is in turn attributable to the increase in the projected growth rates for Earnings per Share

(“EPS”) from 8.49% (Stage 2 simple average) in 2020 to 17.56% in 2021. The increase is 907 basis points or 107%.

Notwithstanding the Covid pandemic and its impacts, including the increase in interest rates and inflation, there is no good reason to conclude that the COC for the railroad industry could rise so precipitously in a single year, particularly when all other factors show only modest change. The surge flows directly from the instability in the MSDCF utilized by the Board. As WCTL has previously explained, the MSDCF’s instability, and the resulting instability in the hybrid COE and the overall COC, spring from the model’s excessive sensitivity to changes in the analyst growth rates, due particularly to the absence of a transition in the second stage and the failure to adjust for stock buybacks.² The 17.56% growth rate equates to a doubling of earnings or cashflow in under five years ($1.1756^{4.3}=2.01$), before the first stage ends, and a quintupling within ten years ($1.1756^{10}=5.04$), when the second stage of the MSDCF ends. As explained further *infra*, those levels, especially in the second stage, appear implausible when the railroads are not growing their volumes, their high transportation rates are causing a loss of market share, and there are limits to further cost savings, even assuming such developments as the adoption of one-man crews. Moreover, rather than investing in growth, the railroads have instead been limiting their capital expenditures and reducing

² Under the MSDCF, the rise in railroad stock prices acts to offset the impact of the higher growth rates, but only in part.

their headcounts. The growth rates are not so high as to be unsustainable for purposes of the MSDCF.

The nature of the 2021 growth rate projections warrants review. Each railroad has only three growth estimates, but all are from unidentified sources except the Credit Suisse estimate for UP. The universe of analysts that cover the railroads is far broader. For example, Yahoo!Finance identifies, as of April 27, 2022, 24 analyst price targets for CSX, 23 for NS, and 27 for UP. The disparity between the large number of analysts and the paucity of “long-term” earnings forecasts indicates that most analysts do not present long-term growth forecasts for the company and/or do not consider such forecasts to be material or reliable. The two analysts that appeared at the Board’s recent hearing in EP 770, *Urgent Issues in Freight Rail Service*, made clear that most railroad investors utilize much shorter time horizons. The Board’s methodology assigns very substantial weight to data that the market and investors generally view as immaterial. Abandoning the MSDCF would result in substantially increased accuracy and stability.

Use of the 2021 EPS projections is particularly problematic for the MSDCF. The “long-term” three-to-five-year growth projections from 2021 utilized by the AAR (Gray VS at 43 and Appendix L) appear to treat 2021 as the first year in the forecast, *i.e.*, the three years are 2021-2023, and the five years are 2021-2025. For example, Credit Suisse’s June 1, 2018 report for UP, accessed at <https://plus.credit-suisse.com/r/V7ceXs2AF-WheK>, treats 2017 (after netting out the impact of the 2017 tax cut) as the base year, and 2018, 2019, and 2020 as the three forecast years.

As the AAR explains, the analysts lack end-year data when they make the estimates included in the MSDCF. Gray VS at 43. However, they have access to ample partial-year data, *e.g.*, the EPS forecasts utilized in the AAR's Appendix L were all made after the third quarter 2021 earnings were released. The 2021 (year one) earnings growth forecasts were thus effectively for the remaining fourth quarter of 2021.

When a year such as 2021 reflects outsize growth, the MSDCF (but not investors) effectively counts that earnings growth twice, first in setting the Initial Cash Flows (subject to smoothing), and then a second time as part of the long-term average. In 2021, NS's net income increased by 49%, to \$3.005 billion from \$2.013 in 2021. AAR Appendices K, p. 2, and O. Such one-year growth substantially increases the "long-term" average. Suppose that NS's net income stays, or is projected to remain, completely flat after 2021. The 49% growth in one year translates into 14.2% annual growth over three years ($1.142^3=1.49$) and 8.3% over five ($1.083^5=1.49$). Yet, the MSDCF bakes that outsize growth into both the Initial Cash Flows and the long-term growth. Growth that may be projected to persist only through 2023 (two years) is deemed to persist through 2031 (ten years) and then form the year eleven terminal cashflow.

The MSDCF does not accurately depict investor expectations for a year such as 2021. Investors knew by the fourth quarter that 2021 would be a very good year for the railroads, as reflected in the share prices, but there is no sufficient predicate to conclude that they, or the small number of analysts, expected that growth would be duplicated in 2022 and then subsequently, as posited by the model. The MSDCF's COE is not credible under the circumstances and should not be utilized.

II. The CAPM COE, while still overstated, is much more realistic when viewed against independent benchmarks.

The much lower COE value produced by the CAPM, 9.97%, is more realistic, although still substantially overstated, when measured against the available independent benchmark values that WCTL has identified in its past filings.

In particular, Morgan Stanley continues to present weighted average cost of capital (“WACC”) values for individual carriers that are very close to those that it has published for a number of years. Attached as Exhibit A are excerpts from Morgan Stanley’s report dated January 10, 2022, *i.e.*, before the railroads released full-year data for the year 2021. Morgan Stanley’s report presents WACC figures of 7.5% for CSX, 7.5% for NSC, and 7.2% for UNP, values that are unchanged from 2020 and not significantly changed from other recent years, as can be confirmed by reviewing WCTL’s past comments in the annual COC proceedings in EP 558. The stability of the Morgan Stanley values makes the large fluctuations in the MSDCF COE even more anomalous.

In any event, using the same weights that the AAR presents for its MSDCF analysis, Gray VS at Table No. 15 on page 49, the weighted average cost of capital for the composite sample as presented by Morgan Stanley is 7.35%:

Table 1		
Weighted Average of Morgan Stanley Cost of Capital Values for 2020		
Carrier	Weight	Cost of Capital
CSX	26.242%	7.50%
NSC	22.796%	7.50%
UNP	50.962%	7.20%
Average		7.35%

The calculation is presented in WCTL’s e-workpaper at “Table 1.”

The 7.35% figure can be very closely approximated by employing the CAPM for the cost of equity utilizing the market risk premium (“MRP”) and risk-free rate (“RFR”) recommended by Kroll (formerly known as Duff & Phelps), along with the other values presented in the AAR’s submission.³ Specifically, Duff & Phelps reduced its recommended MRP from 6.0% to 5.5% effective December 9, 2020, and has not changed it since.⁴ Applying that 5.5% MRP under the CAPM, along with a “normalized” RFR of 2.5% also recommended by Duff & Phelps starting June 30, 2020,⁵ yields a CAPM cost of equity of 8.39% and a COC of 7.37% as follows:

Table 2				
Derivation of Cost of Capital for Industry Composite Sample Using Only CAPM with Kroll Current Market Risk Premium and Risk-Free Rate				
CAPM Cost of Equity		Industry Cost of Capital		
Risk-Free Rate	2.50%	Component	Weight	Cost
Market-Risk Premium	5.50%	Debt	21.16%	2.63%
Beta (Composite Sample)	1.0704	Equity	78.84%	8.39%
Cost of Equity	8.39%	Average COC		7.37%

The calculation is shown on WCTL’s electronic workpaper at “Table 2.” It bears nothing that this figure is nearly identical (within two basis points) of the Morgan Stanley figure, using the AAR’s weighting of the composing sample.

³ Duff & Phelps acquired Kroll in 2018, but the decision to rebrand as Kroll was announced in 2021. See <https://www.kroll.com/en/about-us/news/duff-and-phelps-unifies-under-kroll-brand>, and AAR Comments at 32.

⁴ See <https://www.duffandphelps.com/insights/publications/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates>.

⁵ Effective April 7, 2022, Kroll recommended that the RFR be increased to 3.0%.

WCTL notes, as it has stated previously, that the MRP that Duff & Phelps recommends for use in conjunction with the CAPM is not the 1926-based historical MRP (7.46% for 2021) utilized in the AAR’s submission, but is instead a MRP that represents the current opportunity cost of equity relative to the RFR. In that regard, the historical 7.46% historical MRP for 2021 is actually slightly higher than the 7.25% value for 2020, even though Duff & Phelps reduced its recommended MRP from 6.0% to 5.5% on December 9, 2020. The contrast in the directional movements of the historical and current MRPs highlights the anomaly in the Board’s approach in relying on historical MRPs to determine the current cost of capital.

WCTL has also previously addressed the problems inherent in Duff & Phelps recommended use of a “normalized” RFR rather than the current yield on the 20-year Treasury bond. Applying the calculations referenced in Table 2 while using the 1.98% RFR presented by the AAR results in a cost of equity of 7.87%, and an overall COC of 6.94%:

Table 3				
Derivation of Cost of Capital for Industry Composite Sample Using Only CAPM with Kroll Current Market Risk Premium				
CAPM Cost of Equity		Industry Cost of Capital		
Risk-Free Rate	1.98%	Component	Weight	Cost
Market-Risk Premium	5.5%	Debt	17.71%	2.638%
Beta (Composite Sample)	1.0704	Equity	82.29%	7.87%
Cost of Equity	7.87%	Average COC		6.94%

The calculation is shown on WCTL’s electronic workpaper at “Table 3.” This figure is close to the 7.35% and 7.37% figures previously adduced.

The Duff & Phelps-recommended current MRP is not the only readily available MRP value, nor is it the lowest. In particular, Professor Aswath Damodaran, a noted valuation authority, recommends use of a market-implied MRP, which is based on the actual yield for the 10-year Treasury Bond, not a so-called normalized value. Those recommended MRP and RFR values are available at <http://www.stern.nyu.edu/~adamodar/pc/datasets/histimpl.xls>. As of the end of 2020, the implied MRP was 4.24% based on a 10-year Treasury Bond rate of 1.51%. Utilizing those values in the CAPM formula along with the AAR’s other inputs yields a cost of equity of 6.05% and an overall COC of 5.44%:

Table 4				
Derivation of Cost of Capital for Industry Composite Sample Using Only CAPM with Damodaran Implied Current Market Risk Premium				
CAPM Cost of Equity		Industry Cost of Capital		
Risk-Free Rate	1.51%	Component	Weight	Cost
Market-Risk Premium	4.24%	Debt	21.16%	2.63%
Beta (Composite Sample)	1.0704	Equity	78.84%	6.05%
Cost of Equity	6.05%	Average COC		5.44%

The calculation is shown on WCTL’s electronic workpaper at “Table 4.”

WCTL also wishes to respond to Mr. Gray’s assertion that even though the 2021 beta “is the lowest since 2009 ... this is the thirteenth consecutive year that the railroad beta has been above 1.0, further demonstrating that railroad stocks are consistently more volatile and are regarded as having more risk than does the market generally.” Gray VS at 37. His claim that the railroad stocks are regarded as having more risk than the market generally is an oversimplification. The AAR derives a standard error of 0.05542953 for its beta (Gray VS, Appendix I), meaning there is a 95%

probability that the actual railroad beta is between 0.96 and 1.18 (two times the standard error plus/minus the estimated beta of 1.0704). *E.g.*, Brealey, Myers and Allen, *Principles of Corporate Finance* (10th ed. 2011), at 217-18.

There are also other railroad betas showing values of 1.00 or less. For example, www.marketwatch.com (a subsidiary of Dow Jones & Company) listed a beta for UP (UNP) on April 25, 2022, of 1.00. Attached as Exhibit B are reports from Argue Research dated as of December 29, 2021, for CSX, NS, and UP that show betas of 0.96, 0.62, and 0.74, respectively, all significantly below 1.0.

The STB's beta for the composite sampled peaked in 2013 at 1.3499 and has declined every year since 2013. That sustained trend established at least the possibility that the value may be reverting to values lower than 1.0. Furthermore, Mr. Gray's period includes data from the post-collapse recovery, when financial and economic conditions were very unusual and in flux, as well as the pandemic. Performance starting in that period may thus not be fully representative, particularly as the Board's railroad beta was 0.8604 in 2006. Also, the Board uses a rolling five-year period to measure beta. Since only one of the five years changes annually, sudden changes from year-to-year are unlikely, and a consecutive streak above 1.00 is not as remarkable as it might first appear. Recent railroad betas set their peak in 2013 at 1.3499, and have now decreased eight years in a row, suggesting that further declines are at least possible.

In that regard, recent one-year betas for the railroads are available at www.infrontanalytics.com. That data, as of April 25, 2021, shows one-year levered betas

of 0.60 for UP, 0.48 for CSX, and 0.81 for NS.⁶ Those values are all significantly below 1.0 and serve to rebut Mr. Gray’s claim “that railroad stocks are consistently more volatile and are regarded as having more risk than does the market generally.”

III. PSR distorts the MSDCF, which rewards the carrier for investing in buybacks instead of operations and facilitates further underinvestment.

In his separate comment to the Board’s decision in EP 664 (Sub-No. 4), *Revisions to the Board’s Methodology for Determining the Railroad Industry’s Cost of Capital* (STB served June 23, 2020) (“EP 664-4”), Chairman Oberman emphasized “that the Board should continue to closely scrutinize the extent to which equity markets are incentivizing railroads to reduce operating ratios and whether and how such efforts might result in changes to the Board’s cost-of-capital figure.” *Id.* at 6. Chairman Oberman added that “[e]quity markets’ incentivizing railroads to lower operating ratios could translate into increases in the cost of capital figure.” *Id.*

As explained below, PSR, particularly as currently applied to focus on reducing operating ratios rather than providing reliable service or pursuing growth, introduces or exacerbates several basic distortions in the operation of the MSDCF.

The MSDCF utilized by the Board is configured around three stages, although there is little difference between the first two.⁷ The first two stages, of five

⁶ See <https://www.infrontanalytics.com/fe-EN/30444NU/Union-Pacific-Corporation/Beta>, <https://www.infrontanalytics.com/fe-en/US1264081035/CSX-Corporation/beta>, and <https://www.infrontanalytics.com/fe-en/US6558441084/Norfolk-Southern-Corp-/beta> (accessed April 25, 2022).

⁷ The only difference is that the railroad’s own growth rate is used for the first five years, and a simple average of those growth rates is used for the second five years. There

years each, focus on growth (or the possibility thereof) and an associated increase in investment, whereas growth in the third or terminal stage is equal to that in the general economy and incorporates an associated reduction in investment. Specifically, cashflow in the terminal stage is redefined to equal earnings, as capital expenditures are offset by the total of deferred taxes and depreciation. *E.g., Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, EP 664 (Sub-No. 1) (STB served Jan. 28, 2009) (“EP 664-1”), at 12 (“[I]f we relaxed the assumption of zero net investment [in the third stage], we would also have to relax the assumption that the growth rate in the third stage is equal to the long-run growth rate of the overall economy.”). This relationship, where earnings correspond to free cashflow, reflects a conversion ratio of earnings into free cashflow of 100%.

The disconnect is that the AAR’s inputs for the 2021 MSDCF assume outsize growth at a time when the railroads, pursuant to PSR, have been limiting their capital expenditures, avoiding volume growth in the interests of reducing their operating ratios, and already achieving or expecting to achieve free cashflow conversion ratios approaching or reaching 100%. The inputs thus defy the assumptions upon which the MSDCF is predicated.

Stated differently, the AAR’s submission presupposes that the railroads can have their cake in the form of high EPS growth rates, and eat it, too, in the form of

is no transition in the second stage, and the MSDCF assumes that the three-to-five-year growth rates used in the first stage will continue without change in the second stage.

reduced capital expenditures and associated lack of volume growth. The consequences of that contradiction are already devastating for service and the general economy, as reflected in the Board's recent in EP 770, *Urgent Issues in Rail Freight Service*. The inputs also contradict the premises of the MSDCF.

The problem is especially apparent with UP, which accounts for over half the weight of the MSDCF COE. According to its pitchbook for a Barclays conference that occurred in February 2022, UP had a (GAAP-adjusted) conversion ratio of 101% in 2020 and 93% in 2021, and is targeting an average 100% conversion ratio for 2022-2024, while keeping capital expenditures below 15% of revenue (slides 9, 49, and 51). See https://www.up.com/cs/groups/public/@uprr/@investor/documents/infdf_unp_barclays_pitchbook.pdf. The MSDCF inputs thus posit that UP will double its earnings and cashflow in little more than four years, and quintuple them in ten years, while avoiding increased investment beyond depreciation and deferred taxes. Similarly, CSX's free cashflow conversion in 2020 was 96% and in 2021 was 101%. See https://s2.q4cdn.com/859568992/files/doc_financials/2021/q4/CSX-Q4-2021-Earnings-Presentation_FINAL.pdf (p. 14). NSC had a cashflow conversion ratio in 2021 of 93%, <http://www.nscorp.com/content/dam/QuarterlyEventFiles/4q-2021/4q2021-Transcript.pdf> (p. 9), and its annual capital expenditures have declined during 2019-2021.

The projected growth in earnings and cashflow does not appear to be linked to any growth in volumes, which have not grown significantly in many years in any event. Growth in productivity has also been modest, particularly as measured by the

Board's Productivity Adjustment Factor for the Rail Cost Adjustment Factor. *E.g.*, *Railroad Cost Recovery Procedures—Productivity Adjustment*, EP 290 (Sub-No. 4) (STB served Feb. 3, 2022), calculating 2016-2020 productivity average at 2.5%. Perhaps the EPS growth is premised on continued improvement in operating ratios, but there would also appear to be limits to the potential for both rate increases and cost savings, particularly with respect to the premise that the 17.56% average growth rate can be sustained over a ten-year period.

A significant portion of the EPS growth can be explained by a reduction in shares due to buybacks. For example, UP announced on February 3, 2022, its new program to buyback up to 100 million shares over the three years ending March 31, 2025. See <https://www.up.com/media/releases/dividend-share-repurchase-nr-220203.htm>. At \$250/share at the time, the buybacks amount to \$25 billion. As of March 31, 2022, UP had 633.6 million shares outstanding on a diluted basis, https://www.up.com/cs/groups/public/@uprr/@investor/documents/pdf_unp_1q22_news_release.pdf (p. 4 of the pdf). so the repurchases amount to 16% of the shares, which equates to about 5% per year ($1.160^{0.33}=1.05$). The other carriers in the composite sample have buyback programs of their own. On March 29, 2022, NS announced a new buyback program for up to \$10 billion beginning April 1, 2022. See [http://www.nscorp.com/content/nscorp/en/news/norfolk-southern-announces-new--10-billion-stock-repurchase-prog.html#:~:text=Norfolk%20Southern%20Corporation%20\(NYSE%3A%20NSC,terminated%20on%20March%2031%2C%202022](http://www.nscorp.com/content/nscorp/en/news/norfolk-southern-announces-new--10-billion-stock-repurchase-prog.html#:~:text=Norfolk%20Southern%20Corporation%20(NYSE%3A%20NSC,terminated%20on%20March%2031%2C%202022). CSX continues to repurchase shares under

the \$5 billion buyback program it announced in October 2020. *See*

https://s2.q4cdn.com/859568992/files/doc_financials/2021/ar/2021-CSX-Final-10K.pdf

(at 21).

WCTL has previously explained how buybacks distort the MSDCF when EPS forecasts are used to project the growth in firm-wide cashflows. The MSDCF calculates the COE as the discount rate at which firm-wide cashflows equal the market capitalization of the stock. Where buybacks reduce the number of shares, the EPS share will overstate the growth rate in firm-wide earnings or cashflows utilized by the model.⁸ Use of buyback-influenced EPS growth rates causes the model to overstate the growth in total cashflows and thus overstate the COE.

The distortion can also be confirmed by utilizing historical data that compares (a) the growth in EPS with (b) the growth in net income. The following table depicts the divergence for the period 2016-2021:

⁸ The Board has maintained that buybacks are just one means by which investors can benefit from cashflows. EP 664-1 at 12 (“Although the model does not assume that these cash flows are actually paid out to equity investors, it does assume that investors will ultimately benefit from these flows through specific distributions or stock price appreciation. Certainly there are numerous ways in which to account for cash flows, and the Morningstar/Ibbotson model includes one reasonable means of doing so.”). However, cash flows that are distributed (by dividends or buybacks) are not available for reinvestment, and buybacks reduce the number of shares, which causes the resulting EPS growth rate to overstate the earnings growth rate for the firm as a whole.

Table 5							
Comparison of Growth Rates in Fully-Diluted Earnings Per Share (“EPS”) and Net Income (“NI”), in \$ billions, for Railroads in the Composite Sample for 2016-2021							
Railroad	2016 EPS	2021 EPS	EPS Growth	2016 NI	2021 NI	NI Growth	EPS Growth/ Net Income Growth
CSX	\$0.60	\$1.68	178.5%	\$1.714	\$3.781	120.6%	148.0%
NS	\$5.62	\$12.11	115.5%	\$1.668	\$3.005	80.2%	144.1%
UP	\$5.07	\$9.95	96.3%	\$4.233	\$6.523	54.1%	177.9%
Simple Average	\$3.76	\$7.91	130.1%	\$2.538	\$4.436	84.9%	156.7%
Note: CSX 2106 EPS adjusted to reflect split 3-for-1 CSX stock split as of June 18, 2021. Excerpts from the 10-K Reports are included as Exhibit C.							

The calculations are shown in WCTL’s electronic workpaper “Table 5.”⁹

The overstatement in the growth EPS relative to the growth in actual net income over the five-year period for the three carriers in the composite sample ranges from 44.1% to 77.9%, with a simple average of overstatement of 56.74%. Even if the forecasts accurately predict EPS growth or investor expectations for such growth, those forecasts will, in the presence of buybacks, substantially overstate the growth in firm-wide earnings and cashflow. The overstated firm-wide cashflows will in turn translate into an overstated COE and COC.

⁹ The 2016-2021 period is equivalent to that used for 2016 COC determination in EP 558 (Sub-No. 20), where 2016 serves as the base year, and the intent is to utilize the growth rates for the next five years, *i.e.*, through 2021. An analysis that began with 2017 would be biased by the surge in 2017 income resulting from Tax Cut and Jobs Act of 2017 and its impact on deferred income tax liabilities. The Board generally excluded that income for calculation of the cost of capital and other costs and revenue. *Railroad Revenue Adequacy—2017 Determination*, EP 522 (Sub-No. 22) (STB served Dec. 4, 2018).

The 2016-2021 figures show high growth in both EPS and net income due to the railroads' commercial success in 2021. Truncating the analysis at 2020 shows far more modest growth, but the disparity between EPS and net income growth remains. The Argus Research reports at Exhibit B present the needed data. For example, UP's net income grew only 12% from 2016 to 2020, but its EPS grew 44%, more than triple. Those correspond to compound annual growth rates of 3% ($1.12^{0.25}=1.0287$) for net income and 10% ($1.44^{0.25}=1.095$) for EPS. Simply stated, the Board is using the wrong input for the MSDCF. An inability to correct the mismatch is another reason not to use the MSDCF at all.

The buybacks also dwarf the level of capital expenditures. The estimated capital expenditures for 2022 are \$3.3 billion for UP (Pitchbook at slide 51), roughly \$2 billion for CSX (4Q2021 earnings call powerpoint at 12), and \$1.8-1.9 billion for NS (JPMorgan presentation at 12). Most of those capital expenditures are for asset replacement, not expansion. For example, UP stated during its earning call on January 20, 2022, that “[a]pproximately 80% of our planned capital spending will go towards replacement of our existing infrastructure.” *E.g.*, <https://seekingalpha.com/article/4480670-union-pacific-corporation-unp-ceo-lance-fritz-on-q4-2021-results-earnings-call-transcript>. The railroads are not investing in growth, which makes the EPS growth projections even more unrealistic for purposes of the MSDCF.

In his separate statement in EP 664-4, Chairman Oberman further commented that “the need for continued scrutiny arises from my increasing concern that

there is a point beyond which the demands of equity markets for a return of capital may impact the ability of the railroads to meet their common carrier obligations and may deprive the network of the capital it requires to support the needs of the public and the national defense.” EP 664-4 at 12.

The level of buybacks makes clear that the railroads have abundant capital flowing from their operations. The railroads’ current operational problems stem from their decisions to deploy available capital for other purposes, particularly buybacks, rather than sustaining their operations. The railroads’ choices have left their systems starved of needed resources, including employees and locomotives that remain in storage rather than in use.¹⁰ The railroads are catering to investor demands, or at least preferences, that favor lower operating ratios over quality service, immediate payouts over higher volumes, and short-term scarcity over long-term growth. The result is that shareholders receive excessive compensation and service suffers, inflicting damage throughout the economy.

The Board’s recent hearing in EP 770, *Urgent Issues in Freight Rail Service*, made clear that the railroads are unable to meet existing demand for their services and have passed on numerous opportunities to expand their market share and improve their level of service, to the detriment of shippers, producers, manufacturers,

¹⁰ A contributing factor is that railroads have not expanded their sidings to accommodate the longer trains that they utilize to compensate for the lack of train and engine crews. They also operate at lower speeds to conserve fuel and to avoid meets and passes where their sidings are inadequate. The railroads pursuit of PSR has resulted in a mismatch of inadequate operating assets.

employers, consumers, the environment, and society as a whole, including national security.

This focus on a smaller volume of traffic because it is more profitable in the sense of offering a higher mark-up represents precisely the sort of exploitation of market power that the Board exists to guard against. The exploitation is made more invidious because the railroads are able to earn not only their cost of capital, but also a premium return, on their operations and have chosen to take capital out, rather than reinvest it.

The Board's use of the MSDCF contributes to the problems in two respects. First, the operations of the MSDCF, as explained *supra*, is distorted by the inputs, which reflect PSR's influence on so-called growth (which consists in large part of extracting value from shippers by raising rates and providing poor service) and cash flow conversion by reducing expenditures in actual growth and improved service. PSR thus contributes directly to higher MSDCF values.

Second, the resulting overstated COC values facilitate further exploitation. Variable costs appear higher than they actually are, jurisdictional thresholds are overstated, potentially available rate relief is reduced, the railroads appear less revenue adequate, and more traffic appears appropriate for exemptions. The higher COC values give the railroads more headroom to continue pursuing PSR by raising rates while curtailing investment and service. The resulting reductions in operating ratios, especially in the absence of volume growth, demonstrate that any efficiency gains are being retained by the railroads and not passed along to shippers, providing additional confirmation that there is a lack of overall effective competition.

Continued reliance on the MSDCF does not contribute to accuracy or stability in the COC. At best, it rewards the carriers by assuming that the existing exploitation and underfunding will continue and grow worse. In contrast, the CAPM is the mainstream COE methodology that produces results that are consistent with credible benchmark values and is not directly affected by PSR.

CONCLUSION

For the reasons stated above, the Board should base the COE and related COC exclusively on the CAPM and no longer utilize the MSDCF.

Respectfully submitted,

WESTERN COAL TRAFFIC LEAGUE

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Dated: May 9, 2022

Its Attorneys

CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of May 2022, I have caused true and accurate copies of the foregoing Reply Statement of the Western Coal Traffic League to be served upon all parties on the service list in EP 558 (Sub-No. 25) by first class mail, postage prepaid, or by more expeditious means.

/s/ Robert D. Rosenberg

EXHIBIT A

Excerpts from Morgan Stanley's Report
on the Transportation Industry dated January 6, 2021

January 10, 2022 06:00 AM GMT

Freight Transportation | North America

4Q21 Preview: The Show Goes On (For Now)

4Q results are likely to stick closely to the template of 2Q and 3Q. 2022 guidance is unlikely to deviate too much from consensus as we wait and watch for what 2022 is shaping up to be. Positioning shifts could drive volatility.

No major shifts in 4Q but 2022 could be a different story. The unprecedented cycle that brought us to this point likely continued unabated in 4Q. Based on early December updates at conferences and catch-up calls with management teams, tight supply chains and a strong macro drove strong topline conditions at the Transports though relative to 3Q, a tougher comp and higher inflation played a little spoilsport. We expect 10 beats, 5 misses and 7 in-line prints vs. current consensus. **As always in 4Q, forward commentary/FY guidance will matter more than the print itself though we expect more of a cat-and-mouse game this year.** Current conditions are expected to last at least into 1Q if not 1H and we expect more mgmt. teams to sound constructive on the near-term, even if some harbor concerns about 2H22. **The “tale of two halves” possibility for 2022 (see our 2022 Outlook [here](#)) and lack of COVID and cycle visibility means that most companies are likely to issue guidance close to current consensus - for now - and wait to see how the year plays out.** This means that, for the third quarter in a row, **investor positioning (rather than fundamentals) will likely drive stock moves and volatility has been high in the last few weeks.** With heavy polarization between cycle bulls and bears, there appears to be growing consensus around implementing the late-cycle playbook though the debate appears to be around the exact timing of doing so (is now too early or just right?). As we noted in our December [sector downgrade](#) **the group is trading at close to peak multiples on very peak earnings, which could leave the stocks vulnerable if guidance doesn’t push consensus higher, in our view.**

What we are looking for by sub sector:

- 1. Rails/IMCs:** 4Q was another quarter of tough volumes (4Q down ~3% y/y) and congestion issues for the Rails which has already driven some (like UNP) to cut FY guidance intra-quarter. While the Rails (and investors) seem to be counting on the traditional rebound thesis for 2022, we flagged the risk in our Outlook piece that consensus expectations were too high. **The key will be how much volume and pricing growth expectations will be offset by rising inflation / labor sourcing issues (as recently flagged at conferences) and lapping accessorial comps in 2022 if congestion eases.**
- 2. TL/LTLs:** The Trucking names will likely continue to sound extremely bullish on current conditions going into 2022 which should drive very

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Freight Transportation

North America
IndustryView Cautious

What's Changed	FROM	TO
ArcBest Corp (ARCB.O)		
Price Target	\$140.00	\$145.00
Old Dominion Freight Line Inc (ODFL.O)		
Price Target	\$330.00	\$336.00
Knight Transportation Inc. (KNX.N)		
Price Target	\$77.00	\$79.00
C.H. Robinson Worldwide Inc. (CHRW.O)		
Price Target	\$60.00	\$65.00
Saia, Inc. (SAIA.O)		
Price Target	\$200.00	\$210.00

Please see price target changes in [Exhibit 1](#)

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For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

Risk Reward – CSX Corporation (CSX.O)

Challenged End Markets and Potentially Unsustainable OR

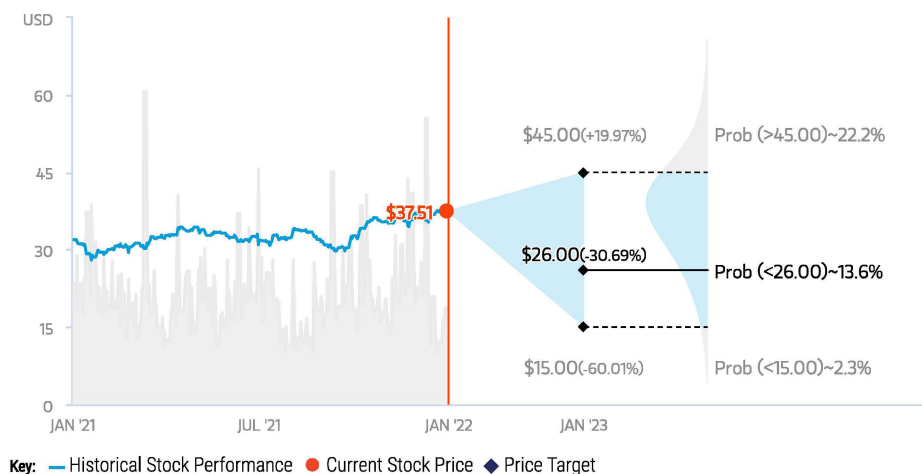
PRICE TARGET \$26.00

We use a 10-year DCF assuming 7.5% WACC and terminal cash flow perpetual growth rate of 1.5%. Our DCF valuation implies a fwd P/E of ~15x, which is modestly below CSX's historical average. We believe US rails deserve to trade at discounts to historical valuation due to structural growth and pricing headwinds relative to history.

Consensus Price Target Distribution



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)

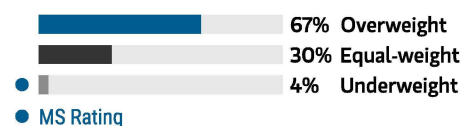


Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 07 Jan, 2022. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology [here](#)

UNDERWEIGHT THESIS

We believe the rising macro tide is offset by several key end markets facing cyclical and secular threats (auto, coal, intermodal), pricing gains may be decelerating, low hanging cost opportunities may have already been taken, OR is likely stable but hard to improve from here. Sentiment is not as frothy as other US Rails but valuation is significantly higher than history. The combination of topline headwinds, high bar on cons. EPS and high multiple keeps us UW.

Consensus Rating Distribution



Risk Reward Themes

Contrarian: *Negative*
Secular Growth: *Negative*

View descriptions of Risk Rewards Themes [here](#)

BULL CASE

\$45.00

25x Bull Case on NTM EPS

Recovery accelerates. The broader market recovery continues to be robust and the industrial economy recovery accelerates. Auto volume recovery acts as a tailwind to topline as coal upside also benefits 1H22, though moderating in 2H. Pricing remains strong and CSX capitalizes on accessorials, providing a tailwind to earnings.

BASE CASE

\$26.00

15x Base Case on NTM EPS

Steady recovery. The broader economy continues to see growth. CSX falls short of revenue and EBIT expectations given the tougher comps on volume and OR. While coal sees gains in 1H, these unwind in 2H and into 2023, keeping the market from paying a full multiple for the gains. Auto recovery meets expectations but cost inflation acts as a headwind, limiting OR upside.

BEAR CASE

\$15.00

10.0x Bear Case on NTM EPS

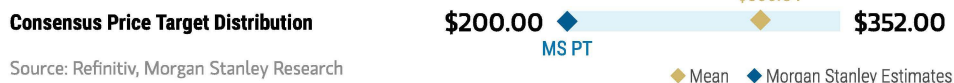
Recovery turns sluggish. The broader economy sees more moderated growth and industrial/bulk commodity end markets are hit the most while IM suffers from even more competition with truck as pricing normalizes. CSX falls short of revenue and EBIT expectations given volume softness due to tougher comps, a slower than expected auto recovery, and higher than anticipated cost inflation.

Risk Reward – Norfolk Southern Corp. (NSC.N)

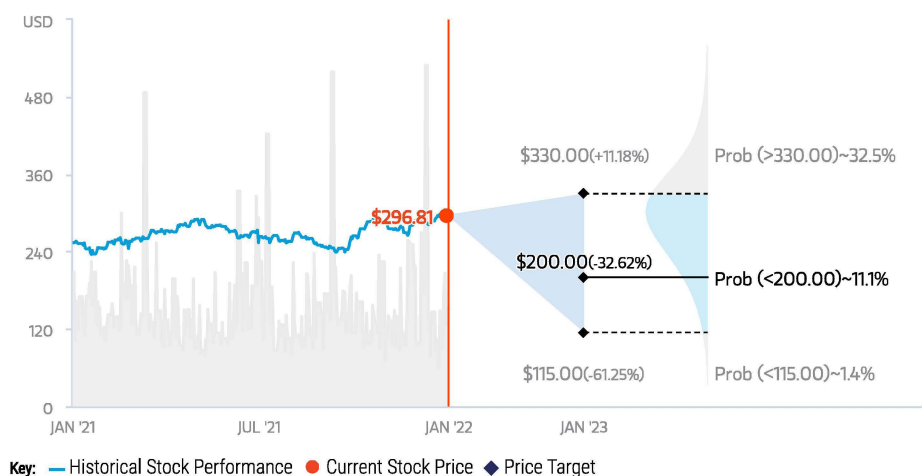
Top Rail UW: Cyclical and Secular Topline Risk Face High PSR Expectations

PRICE TARGET \$200.00

We use a 10-year DCF assuming 7.5% WACC and terminal cash flow perpetual growth rate of 1.5%. Our DCF valuation implies a fwd P/E of ~14.0x, which is below NSC's historical avg. given our cautious outlook on rails. We believe US rails deserve to trade at discounts to historical valuation due to structural growth and pricing headwinds relative to history.



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 07 Jan, 2022. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology [here](#)

BULL CASE

\$330.00

25x Bull Case on NTM EPS

Recovery accelerates. The broader economy growth stays robust / accelerates and Industrial/bulk commodity end markets keep up while IM competition with truck eases (though some share is still lost to to expedited modes like Air and Truck occurs). OR traction continues while coal and auto markets act as tailwinds to topline.

BASE CASE

\$200.00

15x Base Case on NTM EPS

Steady recovery. The broader economy sees "normalized" growth in 2022. While coal and autos see a rebound, coal proves transitory and autos still see some headwinds. IM suffers from competition with truck while OR and volume improvement fall short of elevated market expectations.

BEAR CASE

\$115.00

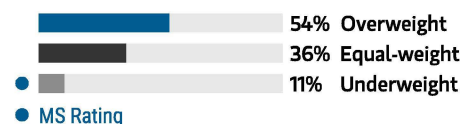
10.0x Bear Case on NTM EPS

Recovery turns sluggish. The broader economy growth turns sluggish with Industrial/bulk commodity end markets hit hard. IM suffers from even more competition with truck and the auto recovery is delayed into 2023. Volumes and OR fall short of market expectations.

UNDERWEIGHT THESIS

We believe NSC continues to face secular headwinds given end market exposure and we expect headwinds to continue. While the company has executed on PSR, coal gains are likely to be transitory in nature and the rail continues to face the threat of share gain from truck. Valuation remains expensive relative to history as we believe consensus expectations may be too high for NSC given the significant OR and volume traction they must demonstrate.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Negative*
Market Share: *Negative*
Contrarian: *Negative*

View descriptions of Risk Rewards Themes [here](#)

Risk Reward – Union Pacific Corp. (UNP.N)

We See Cyclical + Secular Headwinds and PSR OR Expectations Are High

PRICE TARGET \$215.00

We use a 10-year DCF assuming 7.2% WACC and terminal cash flow perpetual growth rate of 1.5%. Our DCF valuation implies a fwd P/E of ~18x, which is relatively inline with UNP's historical 5-year avg. We believe US rails deserve to trade at discounts to historical valuation due to structural growth and pricing headwinds relative to history.



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 07 Jan, 2022. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology [here](#)

BULL CASE

\$285.00

26.5x Bull Case on NTM EPS

Recovery accelerates. The broader economy continues to see robust growth. Volumes benefit (driven by autos and coal) from easing congestion and improving service levels, and pricing strengthens, acting as a tailwind to OR. IM sees usual competition from truck and OR meets market expectations.

BASE CASE

\$215.00

19x Base Case on NTM EPS

Steady recovery. Carloads see some modest upside in 2022 on easier comps as congestion eases, particularly in autos and possibly in coal. Pricing sees stronger levels than in recent years and OR sees some benefit but risks falling short of expectations.

BEAR CASE

\$165.00

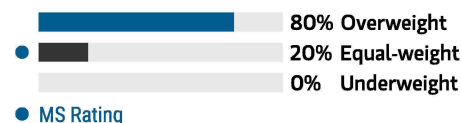
15x Bear Case on NTM EPS

Recovery turns sluggish. Growth in the broader economy continues but network congestion persists and the auto recovery falls short of expectations, limiting upside to volumes. Accessorial regulations provide some pressure on pricing. IM conversion continues to lag while OR improvement falls short of market expectations.

EQUAL-WEIGHT THESIS

We believe investor sentiment around UNP remains neutral to leaning positive as the stock likely remains a "default" core holding in a robust macro with a big infrastructure bill on the way. Progress toward 55% OR continues but gains may be harder to come by, secular volume headwinds remain and competition could intensify.

Consensus Rating Distribution



Risk Reward Themes

Secular Growth: Negative
Market Share: Negative
Contrarian: Negative

View descriptions of Risk Rewards Themes [here](#)

EXHIBIT B

Argus Research Reports for CSX, NS, and UP dated December 29, 2021



Over the past year, CSX shares are down 58.6%, versus a gain of 27.7% for the broader market. The 52 week trading range is \$27.70 to \$37.76. The Argus A6 target price is \$42 representing a 11.6% gain from the current level.

Operating in the Eastern United States, Class I railroad CSX generated revenue near \$11 billion in 2020.

Growth Analysis	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Revenue (B)	11.1	11.4	12.3	11.9	10.6	-11%	-7%	-10%
Gross Margin	31%	33%	39%	41%	41%	1%	25%	36%
Operating Income (B)	3.4	3.8	4.8	4.9	4.4	-11%	16%	22%
Interest Expense (M)	579.0	546.0	639.0	737.0	754.0	2%	38%	39%
Pre Tax Income (B)	2.7	3.1	4.3	4.3	3.6	-16%	15%	16%
Net Income (B)	1.7	5.5	3.3	3.3	2.8	-17%	-49%	40%
EPS	.60	2.00	1.28	1.39	1.20	-14%	-40%	80%
Dividend/Share	.24	.26	.29	.32	.35	8%	33%	49%
Shares Outstanding (B)	2.8	2.7	2.6	2.4	2.3	-4%	-16%	-22%
Market Cap (B)	306.6	452.5	160.5	173.2	209.1	21%	-54%	-9%
Book Value (B)	11.62	14.64	12.56	11.85	13.10	11%	-11%	13%

Financial Condition	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Cash / Short Term Inv.	1.0B	419.0M	1.1B	2.0B	3.1B	60%	647%	118%
Current Assets (B)	2.5	1.9	2.6	3.3	4.4	35%	132%	50%
Current Liabilities (B)	2.0	1.9	1.9	2.2	2.0	-6%	7%	3%
Working Capital	447.0M	21.0M	650.0M	1.1B	2.4B	115%	NM	139%
Short-Term Debt (M)	331.0	19.0	18.0	245.0	401.0	64%	NM	NM
Long Term Debt (B)	11.0	11.8	14.7	16.0	16.3	2%	38%	53%
Total Debt (B)	11.3	11.8	14.8	16.7	17.2	3%	45%	60%
Shareholders Equity (B)	11.7	14.7	12.6	11.8	13.1	11%	-11%	12%

Ratio Analysis	Trend							
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Operating Margin	31%	33%	39%	41%	41%	Higher	Higher	Higher
Net Margin	15%	48%	27%	28%	26%	Lower	Lower	Higher
ROE	15%	41%	24%	27%	22%	Lower	Lower	Higher
ROA	5%	15%	9%	9%	7%	Lower	Lower	Higher
Current Ratio	1.2	1.0	1.3	1.5	2.2	Higher	Higher	Higher
Interest Coverage	5.7	6.8	7.7	6.9	5.8	Lower	Lower	Lower
Dividend Payout Ratio	40%	13%	23%	23%	29%	Higher	Higher	Lower
L-T Debt/Equity	94%	80%	117%	139%	128%	Lower	Higher	Higher
Total Debt/Total Cap	48%	44%	54%	58%	56%	Lower	Higher	Higher

Valuation Analysis	Trend							
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Price - Year End	107.79	165.03	62.13	72.36	90.75	Higher	Lower	Higher
52-Week High	111.81	173.07	177.78	80.52	93.00	Higher	Lower	Lower
52-Week Low	22.42	35.66	54.27	60.98	47.66	Lower	Higher	Higher
P/E High	185.3	86.7	138.9	57.9	77.5	Higher	Lower	Lower
P/E Low	37.2	17.9	42.4	43.9	39.7	Lower	Higher	Higher
P/S High	Nil	Nil	39.1	16.1	20.2	Higher	Nil	Lower
P/S Low	Nil	Nil	11.9	12.2	10.4	Lower	Nil	Higher
P/B High	Nil	Nil	31.8	15.7	16.7	Higher	Nil	Lower
P/B Low	Nil	Nil	9.7	11.9	8.6	Higher	Nil	Lower
Yield High	.21%	.15%	.16%	.40%	.37%	Lower	Higher	Higher
Yield Low	1.07%	.73%	.54%	.52%	.73%	Higher	Lower	Lower
Return	38%	53%	-62%	16%	25%	Higher	Lower	Nil

Argus Rating: **BUY**

Rating Since: 11/17/21

Current Price: \$37.64

Target Price: \$42.00

Market Cap: \$83.5 billion

Dividend: \$0.37

Yield: 1.0%

Beta: 0.96

Sector: Industrials

Industry: Railroads

Argus A6 Sub-component Scores

H High **M** Medium **L** Low

H Industry

Earnings revisions, analyst conviction, performance and historical industry weighting.

M Management

Consistency of growth & financial strength.

M Safety

Liquidity, dividend yield, market cap, debt leverage and stock price beta.

M Financial Strength

Balance sheet debt and liquidity ratios.

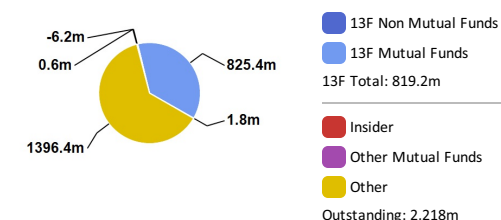
M Growth

Normalized earnings estimates and sales trends.

M Value

Price/earnings, price/sales ratios, trend lines, and DCF valuation.

Vicker's Institutional & Insider Holdings



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Peer Comparison Table: Industrials

Ticker	Company	Price(\$)	Market Cap (Millions \$)	5-yr EPS Growth Rate	Current FY P/E	Net Margin	1-yr EPS Growth Rate	Argus Rating
CNI	CANADIAN NATL RAILWAY CO	122.05	86,286.01	Nil	Nil	33%	Nil	HOLD
CSX	CSX CORP	37.64	83,484.90	80%	26.60	30%	-14%	BUY
UBER	UBER TECHNOLOGIES INC	42.73	82,901.25	Nil	Nil	-16%	Nil	BUY
NSC	NORFOLK SOUTHERN CORP	295.76	71,971.57	54%	26.14	27%	-24%	HOLD
CP	CANADIAN PACIFIC RAILWAY LTD	72.30	67,208.16	Nil	Nil	39%	Nil	BUY
Peer Average			78,370.4	27%	11	23%	-7%	

Our rating on the Industrial sector is Over-Weight. After enduring the challenges of the pandemic, the cyclical stocks in the Industrial sector appear well positioned within the changing political environment. Specifically, we believe that Industrial stocks will benefit from enhanced infrastructure investment and more lenient trade policies under the Biden administration.

The Industrial sector accounts for 7.8% of S&P 500 market capitalization. Over the past five years, the weighting has ranged from 7% to 12%. We think that investors should allocate 9%-10% of their diversified portfolios to the group. The sector includes industries such as transportation, aerospace & defense, heavy machinery, and electrical equipment.

The sector is underperforming the market thus far in 2021, with a gain of 13.5%. It underperformed in 2020, with a gain of 9.0%, and slightly underperformed in 2019, with a gain of 26.8%.

By our calculations, the 2022 P/E ratio is 20, below the market multiple of 21. Earnings are expected to rise 136% in 2021 and 35% in 2022 after a decline

of 62% in 2020. The sector's debt/cap ratio of 50% is above the market average. The yield of 0.8% is below the market average.

Key Sector Trends

- Airline stocks have rebounded after initially falling hard in the coronavirus selloff.
- Prior to the pandemic, the industry had benefited from generally strong fundamentals, including relatively low fuel costs and moderate capacity growth.
- On the defense side, major military contractors have been less impacted by sweeping cuts in government spending than they originally anticipated.
- Package delivery and freight carriers such as FedEx and UPS have seen modest increases in average volume per day and revenue per piece. Although these companies have significant exposure to slowing European and Asian markets, price hikes in the U.S. have mitigated much of the impact.

Argus A6 Quantitative Universe

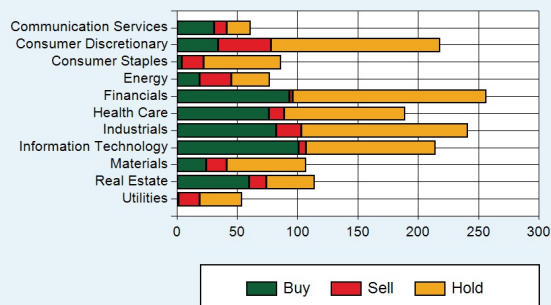
Our A6 Quantitative Universe includes more than 1,500 companies that are diversified across all asset classes and industry sectors. Ratings for these companies are derived through a proprietary algorithm we have designed and tested so that the ratings are based on our fundamental Six-Point System. Our A6 Quantitative Ratings include sub-ratings for each of the six factors.

The A6 algorithm is designed to capture and analyze financial trends for each company under coverage. Companies are measured against their historical record, peer group, and the broad market. For each covered company, the A6 algorithm generates a subrating for growth, financial strength, industry outlook, management, risk/safety and valuation. These scores are totaled and provide an overall rating for each company. The A6 algorithm rates stocks on growth based on normalized earnings estimates and sales trends, among other factors. Our financial strength ranking is based primarily on balance sheet debt and liquidity ratios. For risk, we factor in liquidity, dividend yield, market cap, debt leverage and stock price beta. Our valuation subrating includes factors such as price/earnings and price/sales ratios, trend lines, and discounted cash flow valuations. Ratings are reviewed weekly. Data sources for the A6 reports include Argus estimates, Vickers Stock Research, Bloomberg and Thomson Reuters, among others.

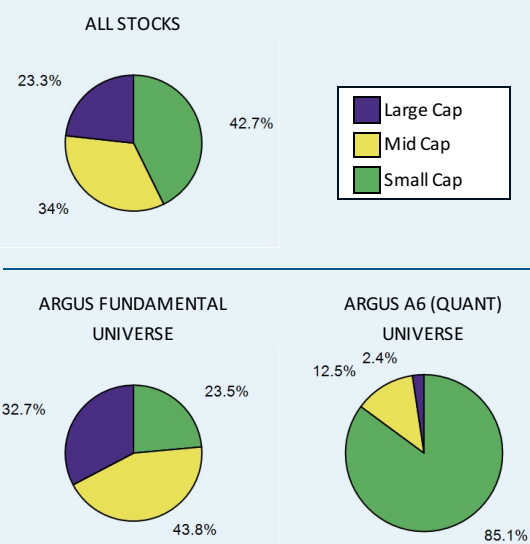
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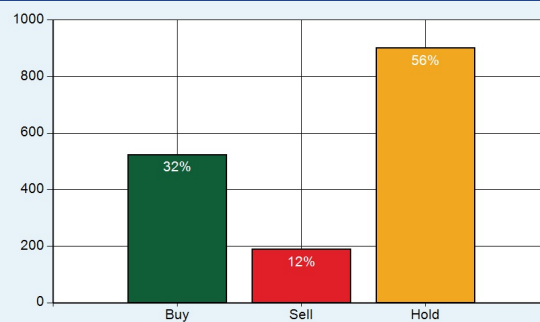
RATING DISTRIBUTION SECTOR



MARKET CAP DISTRIBUTION



CURRENT RATING DISTRIBUTION





Over the past year, NSC shares are up 24.5%, versus a gain of 27.7% for the broader market. The 52 week trading range is \$230.15 to \$296.64. The Argus A6 target price is \$311 representing a 5.2% gain from the current level.

Class-I railroad Norfolk Southern operates in the Eastern United States.

Growth Analysis	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Revenue (B)	9.9	10.6	11.5	11.3	9.8	-13%	-7%	-7%
Gross Margin	35%	38%	37%	39%	38%	-1%	2%	19%
Operating Income (B)	3.2	3.7	4.1	4.2	3.6	-15%	-4%	19%
Interest Expense (M)	569.0	567.0	557.0	604.0	625.0	3%	10%	14%
Pre Tax Income (B)	2.6	3.1	3.5	3.5	2.5	-28%	-19%	4%
Net Income (B)	1.7	5.4	2.7	2.7	2.0	-26%	-63%	29%
EPS	5.62	18.61	9.51	10.25	7.84	-24%	-58%	54%
Dividend/Share	2.36	2.44	3.04	3.60	3.76	4%	54%	59%
Shares Outstanding (M)	296.0	290.3	280.2	265.6	256.6	-3%	-12%	-16%
Market Cap (B)	32.0	42.1	41.9	51.6	61.0	18%	45%	137%
Book Value (B)	12.41	16.36	15.36	15.18	14.79	-3%	-10%	21%

Financial Condition	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Cash / Short Term Inv.	956.0M	690.0M	358.0M	580.0M	1.1B	92%	62%	1%
Current Assets (B)	2.3	2.1	1.9	2.1	2.3	11%	8%	-12%
Current Liabilities (B)	2.3	2.5	2.6	2.3	2.2	-6%	-15%	-3%
Working Capital (M)	-48.0	-396.0	-729.0	-219.0	158.0	NM	NM	-61%
Short-Term Debt (M)	650.0	700.0	585.0	316.0	579.0	83%	-17%	-17%
Long Term Debt (B)	9.6	9.1	10.6	11.9	12.1	2%	32%	29%
Total Debt (B)	10.2	9.8	11.1	12.7	13.1	3%	33%	30%
Shareholders Equity (B)	12.4	16.4	15.4	15.2	14.8	-3%	-10%	21%

Ratio Analysis						Trend		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Operating Margin	32%	35%	36%	37%	36%	Lower	Higher	Higher
Net Margin	17%	51%	23%	24%	21%	Lower	Lower	Higher
ROE	14%	38%	17%	18%	13%	Lower	Lower	Higher
ROA	5%	15%	7%	7%	5%	Lower	Lower	Higher
Current Ratio	1.0	.8	.7	.9	1.1	Higher	Higher	Lower
Interest Coverage	5.5	6.5	7.2	6.8	5.0	Lower	Lower	Lower
Dividend Payout Ratio	42%	13%	32%	35%	48%	Higher	Higher	Higher
L-T Debt/Equity	77%	56%	69%	81%	84%	Higher	Higher	Higher
Total Debt/Total Cap	44%	36%	41%	45%	46%	Higher	Higher	Higher

Valuation Analysis						Trend		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Price - Year End	108.07	144.90	149.54	194.13	237.61	Higher	Higher	Higher
52-Week High	110.69	145.91	186.71	206.70	246.77	Higher	Higher	Higher
52-Week Low	66.60	106.99	128.92	144.02	118.88	Lower	Higher	Higher
P/E High	19.7	7.8	19.6	20.2	31.5	Higher	Higher	Higher
P/E Low	11.9	5.7	13.6	14.1	15.2	Higher	Higher	Higher
P/S High	Nil	Nil	4.7	4.8	6.4	Higher	Nil	Higher
P/S Low	Nil	Nil	3.3	3.4	3.1	Lower	Nil	Higher
P/B High	Nil	Nil	3.2	3.5	4.2	Higher	Nil	Higher
P/B Low	Nil	Nil	2.2	2.4	2.0	Higher	Nil	Higher
Yield High	2.13%	1.67%	1.63%	1.74%	1.52%	Lower	Lower	Lower
Yield Low	3.54%	2.28%	2.36%	2.50%	3.16%	Higher	Higher	Lower
Return	28%	34%	3%	30%	22%	Lower	Lower	Nil

Argus Rating: **HOLD**
 Rating Since: 12/02/21

Current Price: \$295.76

Target Price: \$311.00

Market Cap: \$72 billion

Dividend: \$4.36

Yield: 1.5%

Beta: 0.62

Sector: Industrials

Industry: Railroads

Argus A6 Sub-component Scores

H High **M** Medium **L** Low

H Industry
 Earnings revisions, analyst conviction, performance and historical industry weighting.

M Management
 Consistency of growth & financial strength.

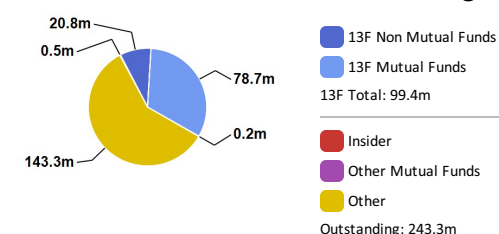
M Safety
 Liquidity, dividend yield, market cap, debt leverage and stock price beta.

M Financial Strength
 Balance sheet debt and liquidity ratios.

M Growth
 Normalized earnings estimates and sales trends.

M Value
 Price/earnings, price/sales ratios, trend lines, and DCF valuation.

Vicker's Institutional & Insider Holdings



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Peer Comparison Table: Industrials

Ticker	Company	Price(\$)	Market Cap (Millions \$)	5-yr EPS Growth Rate	Current FY P/E	Net Margin	1-yr EPS Growth Rate	Argus Rating
CNI	CANADIAN NATL RAILWAY CO	122.05	86,286.01	Nil	Nil	33%	Nil	HOLD
CSX	CSX CORP	37.64	83,484.90	80%	26.60	30%	-14%	BUY
UBER	UBER TECHNOLOGIES INC	42.73	82,901.25	Nil	Nil	-16%	Nil	BUY
NSC	NORFOLK SOUTHERN CORP	295.76	71,971.57	54%	26.14	27%	-24%	HOLD
CP	CANADIAN PACIFIC RAILWAY LTD	72.30	67,208.16	Nil	Nil	39%	Nil	BUY
Peer Average			78,370.4	27%	11	23%	-7%	

Our rating on the Industrial sector is Over-Weight. After enduring the challenges of the pandemic, the cyclical stocks in the Industrial sector appear well positioned within the changing political environment. Specifically, we believe that Industrial stocks will benefit from enhanced infrastructure investment and more lenient trade policies under the Biden administration.

The Industrial sector accounts for 7.8% of S&P 500 market capitalization. Over the past five years, the weighting has ranged from 7% to 12%. We think that investors should allocate 9%-10% of their diversified portfolios to the group. The sector includes industries such as transportation, aerospace & defense, heavy machinery, and electrical equipment.

The sector is underperforming the market thus far in 2021, with a gain of 13.5%. It underperformed in 2020, with a gain of 9.0%, and slightly underperformed in 2019, with a gain of 26.8%.

By our calculations, the 2022 P/E ratio is 20, below the market multiple of 21. Earnings are expected to rise 136% in 2021 and 35% in 2022 after a decline

of 62% in 2020. The sector's debt/cap ratio of 50% is above the market average. The yield of 0.8% is below the market average.

Key Sector Trends

- Airline stocks have rebounded after initially falling hard in the coronavirus selloff.
- Prior to the pandemic, the industry had benefited from generally strong fundamentals, including relatively low fuel costs and moderate capacity growth.
- On the defense side, major military contractors have been less impacted by sweeping cuts in government spending than they originally anticipated.
- Package delivery and freight carriers such as FedEx and UPS have seen modest increases in average volume per day and revenue per piece. Although these companies have significant exposure to slowing European and Asian markets, price hikes in the U.S. have mitigated much of the impact.

Argus A6 Quantitative Universe

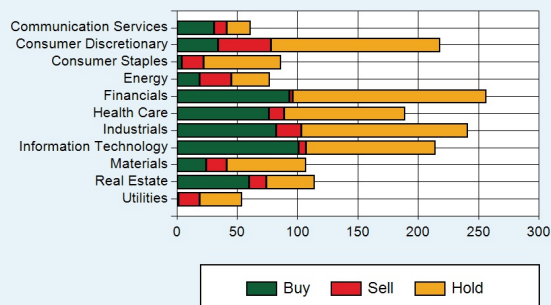
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The A6 algorithm is designed to capture and analyze financial trends for each company under coverage. Companies are measured against their historical record, peer group, and the broad market. For each covered company, the A6 algorithm generates a subrating for growth, financial strength, industry outlook, management, risk/safety and valuation. These scores are totaled and provide an overall rating for each company. The A6 algorithm rates stocks on growth based on normalized earnings estimates and sales trends, among other factors. Our financial strength ranking is based primarily on balance sheet debt and liquidity ratios. For risk, we factor in liquidity, dividend yield, market cap, debt leverage and stock price beta. Our valuation subrating includes factors such as price/earnings and price/sales ratios, trend lines, and discounted cash flow valuations. Ratings are reviewed weekly. Data sources for the A6 reports include Argus estimates, Vickers Stock Research, Bloomberg and Thomson Reuters, among others.

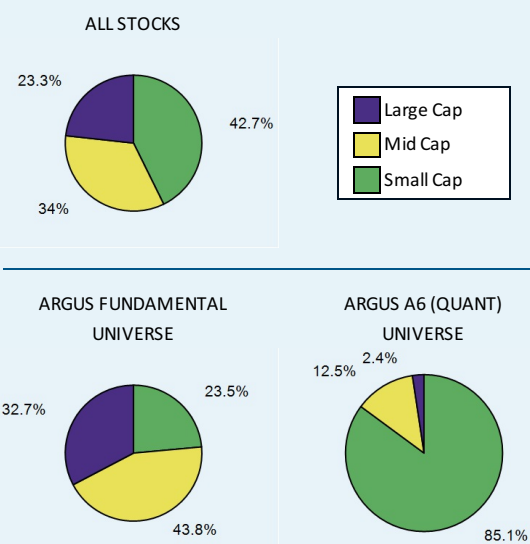
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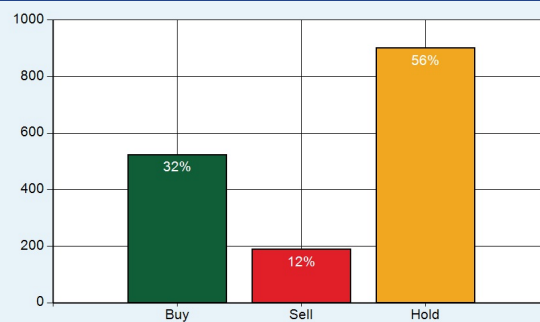
RATING DISTRIBUTION SECTOR



MARKET CAP DISTRIBUTION



CURRENT RATING DISTRIBUTION





Over the past year, UNP shares are up 20.6%, versus a gain of 27.7% for the broader market. The 52 week trading range is \$193.14 to \$251.77. The Argus A6 target price is \$276 representing a 10% gain from the current level.

Omaha, Nebraska-based Union Pacific is the largest public railroad in North America.

Growth Analysis	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Revenue (B)	19.9	21.2	22.8	21.7	19.5	-10%	-8%	-10%
Gross Margin	41%	42%	42%	44%	47%	6%	11%	14%
Operating Income (B)	7.3	8.1	8.5	8.6	7.8	-8%	-3%	-3%
Interest Expense	698.0M	719.0M	870.0M	1.1B	1.1B	9%	59%	83%
Pre Tax Income (B)	6.8	7.6	7.7	7.7	7.0	-10%	-9%	-9%
Net Income (B)	4.2	10.7	6.0	5.9	5.3	-10%	-50%	12%
EPS	5.07	13.36	7.91	8.38	7.88	-6%	-41%	44%
Dividend/Share	2.26	2.48	3.06	3.70	3.88	5%	56%	76%
Shares Outstanding (M)	835.4	801.7	754.3	706.1	679.1	-4%	-15%	-22%
Market Cap (B)	86.6	107.5	104.3	127.7	141.4	11%	32%	108%
Book Value (B)	19.93	24.86	20.42	18.13	16.96	-6%	-32%	-18%

Financial Condition	GAAP Data					Growth Rates		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Cash / Short Term Inv.	1.3B	1.4B	1.3B	891.0M	1.9B	109%	36%	34%
Current Assets (B)	3.6	4.0	4.2	3.5	4.2	22%	5%	2%
Current Liabilities (B)	3.6	3.9	4.6	4.4	4.2	-4%	6%	30%
Working Capital (M)	-44.0	67.0	-463.0	-892.0	41.0	NM	-39%	NM
Short-Term Debt	758.0M	800.0M	1.5B	1.3B	1.1B	-15%	34%	80%
Long Term Debt (B)	14.2	16.1	20.9	23.9	25.7	7%	59%	89%
Total Debt (B)	15.0	16.9	22.4	27.0	28.3	5%	67%	100%
Shareholders Equity (B)	19.9	24.9	20.4	18.1	17.0	-6%	-32%	-18%

Ratio Analysis						Trend		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Operating Margin	36%	38%	37%	39%	40%	Higher	Higher	Higher
Net Margin	21%	50%	26%	27%	27%	Higher	Lower	Higher
ROE	21%	48%	26%	31%	30%	Lower	Lower	Higher
ROA	8%	19%	10%	10%	9%	Lower	Lower	Lower
Current Ratio	1.0	1.0	.9	.8	1.0	Higher	Lower	Lower
Interest Coverage	10.7	11.6	9.9	8.4	7.1	Lower	Lower	Lower
Dividend Payout Ratio	44%	19%	39%	44%	49%	Higher	Higher	Higher
L-T Debt/Equity	71%	65%	102%	140%	159%	Higher	Higher	Higher
Total Debt/Total Cap	42%	39%	51%	58%	61%	Higher	Higher	Higher

Valuation Analysis						Trend		
	2016	2017	2018	2019	2020	1-Year	3-Year	5-Year
Price - Year End	103.68	134.10	138.23	180.79	208.22	Higher	Higher	Higher
52-Week High	106.33	136.32	164.99	181.41	209.85	Higher	Higher	Higher
52-Week Low	68.79	101.40	124.14	132.68	114.04	Lower	Higher	Higher
P/E High	21.0	10.2	20.9	21.6	26.6	Higher	Higher	Higher
P/E Low	13.6	7.6	15.7	15.8	14.5	Lower	Higher	Higher
P/S High	Nil	Nil	5.6	5.8	7.3	Higher	Nil	Higher
P/S Low	Nil	Nil	4.2	4.3	4.0	Lower	Nil	Higher
P/B High	Nil	Nil	5.8	7.0	8.2	Higher	Nil	Higher
P/B Low	Nil	Nil	4.4	5.1	4.5	Higher	Nil	Higher
Yield High	2.12%	1.82%	1.85%	2.04%	1.85%	Lower	Higher	Higher
Yield Low	3.28%	2.45%	2.46%	2.79%	3.40%	Higher	Higher	Higher
Return	33%	29%	3%	31%	15%	Lower	Lower	Nil

Argus Rating: **BUY**
Rating Since: 11/11/20

Current Price: \$250.86

Target Price: \$276.00

Market Cap: \$161.3 billion

Dividend: \$4.72

Yield: 1.9%

Beta: 0.74

Sector: Industrials

Industry: Railroads

Argus A6 Sub-component Scores

H High **M** Medium **L** Low

H Industry
Earnings revisions, analyst conviction, performance and historical industry weighting.

H Management
Consistency of growth & financial strength.

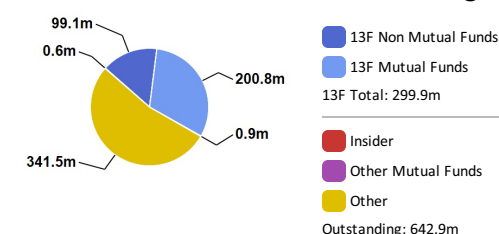
H Safety
Liquidity, dividend yield, market cap, debt leverage and stock price beta.

H Financial Strength
Balance sheet debt and liquidity ratios.

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Normalized earnings estimates and sales trends.

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Peer Comparison Table: Industrials

Ticker	Company	Price(\$)	Market Cap (Millions \$)	5-yr EPS Growth Rate	Current FY P/E	Net Margin	1-yr EPS Growth Rate	Argus Rating
UNP	UNION PACIFIC CORP	250.86	161,268.58	44%	26.39	29%	-6%	BUY
CNI	CANADIAN NATL RAILWAY CO	122.05	86,286.01	Nil	Nil	33%	Nil	HOLD
CSX	CSX CORP	37.64	83,484.90	80%	26.60	30%	-14%	BUY
UBER	UBER TECHNOLOGIES INC	42.73	82,901.25	Nil	Nil	-16%	Nil	BUY
NSC	NORFOLK SOUTHERN CORP	295.76	71,971.57	54%	26.14	27%	-24%	HOLD
Peer Average			97,182.5	35%	16	21%	-9%	

Our rating on the Industrial sector is Over-Weight. After enduring the challenges of the pandemic, the cyclical stocks in the Industrial sector appear well positioned within the changing political environment. Specifically, we believe that Industrial stocks will benefit from enhanced infrastructure investment and more lenient trade policies under the Biden administration.

The Industrial sector accounts for 7.8% of S&P 500 market capitalization. Over the past five years, the weighting has ranged from 7% to 12%. We think that investors should allocate 9%-10% of their diversified portfolios to the group. The sector includes industries such as transportation, aerospace & defense, heavy machinery, and electrical equipment.

The sector is underperforming the market thus far in 2021, with a gain of 13.5%. It underperformed in 2020, with a gain of 9.0%, and slightly underperformed in 2019, with a gain of 26.8%.

By our calculations, the 2022 P/E ratio is 20, below the market multiple of 21. Earnings are expected to rise 136% in 2021 and 35% in 2022 after a decline

of 62% in 2020. The sector's debt/cap ratio of 50% is above the market average. The yield of 0.8% is below the market average.

Key Sector Trends

- Airline stocks have rebounded after initially falling hard in the coronavirus selloff.
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Argus A6 Quantitative Universe

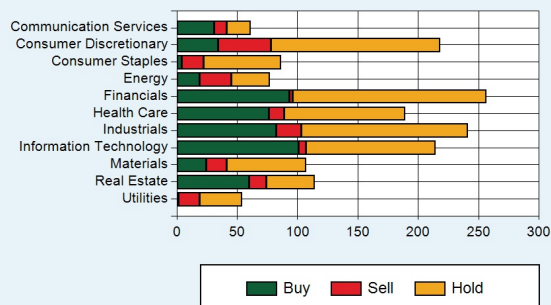
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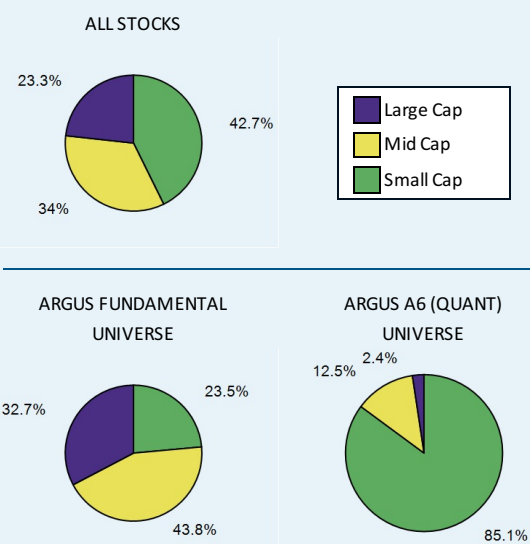
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RATING DISTRIBUTION SECTOR



MARKET CAP DISTRIBUTION



CURRENT RATING DISTRIBUTION

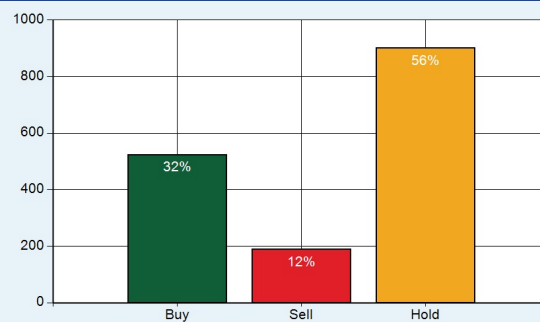


EXHIBIT C

Excerpts from 10-K Reports for CSX, NS, and UP,
showing Net Income and Diluted Earnings Per Share for 2016 and 2021

2016

ANNUAL REPORT



CSX CORPORATION
PART II

Item 6. Selected Financial Data

Selected financial data related to the Company's financial results for the last five fiscal years are listed below.

	Fiscal Years				
	2016	2015	2014	2013	2012
<i>(Dollars and Shares in Millions, Except Per Share Amounts)</i>					
Financial Performance					
Revenue	\$ 11,069	\$ 11,811	\$12,669	\$12,026	\$11,763
Expense	7,680	8,227	9,056	8,553	8,299
Operating Income	\$ 3,389	\$ 3,584	\$ 3,613	\$ 3,473	\$ 3,464
Net Earnings from Continuing Operations	1,714	1,968	1,927	1,864	1,863
Operating Ratio	69.4%	69.7%	71.5%	71.1%	70.6%
Net Earnings Per Share:					
From Continuing Operations, Basic	\$ 1.81	\$ 2.00	\$ 1.93	\$ 1.83	\$ 1.80
From Continuing Operations, Assuming Dilution	1.81	2.00	1.92	1.83	1.79
Average Common Shares Outstanding					
Basic	947	983	1,001	1,019	1,038
Assuming Dilution	948	984	1,002	1,019	1,040
Financial Position					
Cash, Cash Equivalents and Short-term Investments	\$ 1,020	\$ 1,438	\$ 961	\$ 1,079	\$ 1,371
Total Assets	35,414	34,745	32,747	31,462	30,436
Long-term Debt	10,962	10,515	9,349	8,857	8,884
Shareholders' Equity	11,694	11,668	11,176	10,504	9,136
Dividend Per Share	\$ 0.72	\$ 0.70	\$ 0.63	\$ 0.59	\$ 0.54
Additional Data					
Capital Expenditures ^(a)	\$ 2,705	\$ 2,562	\$ 2,449	\$ 2,313	\$ 2,341
Employees -- Annual Averages <i>(estimated)</i>	27,350	31,285	31,511	31,254	32,120
Employees -- Year-end Count <i>(estimated)</i>	26,628	29,410	32,287	31,413	30,787

(a) Capital expenditures include investments related to reimbursable public-private partnerships. These partnership investments of \$41 million, \$14 million, \$8 million, \$40 million and \$166 million in 2016, 2015, 2014, 2013 and 2012, respectively, are projects that are partially or wholly reimbursed to CSX through either government grants or other funding sources such as cash received from a property sale. These reimbursements may not be fully received in a given year; therefore, the timing of receipts may differ from the timing of the investment. See the capital expenditures table on page 46 for additional information.

Certain prior year data has been reclassified to conform to the current presentation.



CSX CORPORATION
PART II

2021 HIGHLIGHTS

- Revenue of \$12.5 billion increased \$1.9 billion or 18% versus the prior year.
- Expenses of \$6.9 billion increased \$707 million or 11% year over year.
- Operating income of \$5.6 billion increased \$1.2 billion or 28% year over year.
- Operating ratio of 55.3% improved 350 basis points from 58.8%.
- Earnings per diluted share of \$1.68 increased \$0.48 or 40% year over year.

RESULTS OF OPERATIONS

The following section generally discusses the Company's results of operations and financial condition for the year ended December 31, 2021, compared to the year ended December 31, 2020. A discussion regarding results of operations and financial condition for the year ended December 31, 2020, compared to the year ended December 31, 2019, except as provided herein, can be found in Part II, Item 7 of CSX's Annual Report on Form 10-K for fiscal year 2020, filed with the Securities and Exchange Commission on February 10, 2021.

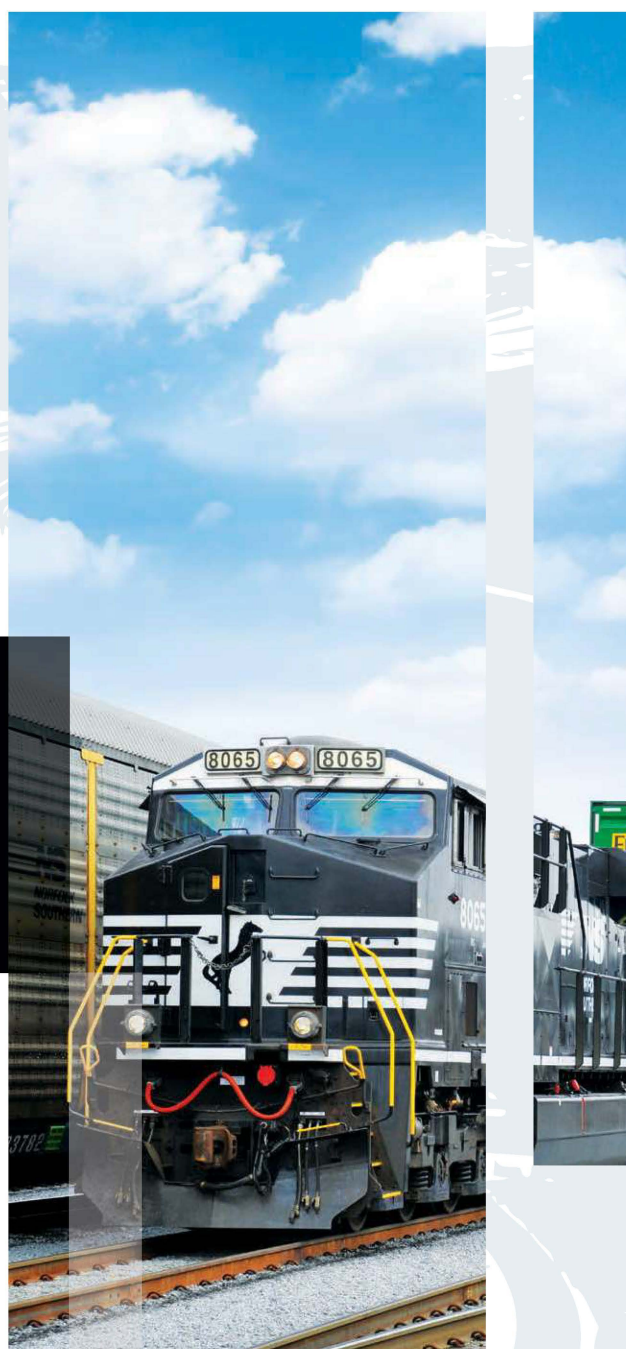
2021 vs. 2020 Results of Operations

	Fiscal Years		\$ Change	% Change
	2021	2020		
<i>(Dollars in Millions)</i>				
Revenue	\$ 12,522	\$ 10,583	\$ 1,939	18 %
Expense				
Labor and Fringe	2,550	2,275	(275)	(12)
Purchased Services and Other ^(a)	2,135	1,719	(416)	(24)
Depreciation	1,420	1,383	(37)	(3)
Fuel	913	541	(372)	(69)
Equipment and Other Rents	364	338	(26)	(8)
Gains on Property Dispositions	(454)	(35)	419	NM
Total Expense	6,928	6,221	(707)	(11)
Operating Income	5,594	4,362	1,232	28
Interest Expense	(722)	(754)	32	4
Other Income - Net	79	19	60	316
Income Tax Expense	(1,170)	(862)	(308)	(36)
Net Earnings	\$ 3,781	\$ 2,765	\$ 1,016	37
Earnings Per Diluted Share^(b)	\$ 1.68	\$ 1.20	\$ 0.48	40 %
Operating Ratio	55.3 %	58.8 %		350 bps

(a) Beginning third quarter 2021, the Company changed the name of Materials, Supplies and Other expense to Purchased Services and Other, which better describes the composition of this expense amount. This change in naming convention does not impact previously reported results.

(b) All prior period share and per share data has been retroactively adjusted to reflect the stock split effective June 28, 2021. Certain prior year data has been reclassified to conform to the current presentation.

DELIVERING ON OUR COMMITMENTS



2016 Annual Report



Item 6. Selected Financial Data**FIVE-YEAR FINANCIAL REVIEW**

	2016	2015	2014	2013	2012
	(\$ in millions, except per share amounts)				
RESULTS OF OPERATIONS					
Railway operating revenues	\$ 9,888	\$ 10,511	\$ 11,624	\$ 11,245	\$ 11,040
Railway operating expenses	6,814	7,627	8,049	7,988	7,916
Income from railway operations	3,074	2,884	3,575	3,257	3,124
Other income – net	71	103	104	233	129
Interest expense on debt	563	545	545	525	495
Income before income taxes	2,582	2,442	3,134	2,965	2,758
Provision for income taxes	914	886	1,134	1,055	1,009
Net income	\$ 1,668	\$ 1,556	\$ 2,000	\$ 1,910	\$ 1,749
PER SHARE DATA					
Net income – basic	\$ 5.66	\$ 5.13	\$ 6.44	\$ 6.10	\$ 5.42
– diluted	5.62	5.10	6.39	6.04	5.37
Dividends	2.36	2.36	2.22	2.04	1.94
Stockholders’ equity at year end	42.73	40.93	40.26	36.55	31.08
FINANCIAL POSITION					
Total assets	\$ 34,892	\$ 34,139	\$ 33,033	\$ 32,259	\$ 30,135
Total debt	10,212	10,093	8,985	9,404	8,642
Stockholders’ equity	12,409	12,188	12,408	11,289	9,760
OTHER					
Property additions	\$ 1,887	\$ 2,385	\$ 2,118	\$ 1,971	\$ 2,241
Average number of shares outstanding (thousands)	293,943	301,873	309,367	311,916	320,864
Number of stockholders at year end	27,288	28,443	29,575	30,990	32,347
Average number of employees:					
Rail	27,856	30,057	29,063	29,698	30,543
Nonrail	188	399	419	405	400
Total	28,044	30,456	29,482	30,103	30,943

See accompanying consolidated financial statements and notes thereto.

2021

ANNUAL
REPORT



 **NS**
NORFOLK SOUTHERN®

Norfolk Southern Corporation and Subsidiaries
Consolidated Statements of Income

	Years ended December 31,		
	2021	2020	2019
	<i>(\$ in millions, except per share amounts)</i>		
Railway operating revenues	\$ 11,142	\$ 9,789	\$ 11,296
Railway operating expenses			
Compensation and benefits	2,442	2,373	2,751
Purchased services and rents	1,726	1,687	1,725
Fuel	799	535	953
Depreciation	1,181	1,154	1,138
Materials and other	547	653	740
Loss on asset disposal	—	385	—
	<u>6,695</u>	<u>6,787</u>	<u>7,307</u>
Income from railway operations	4,447	3,002	3,989
Other income – net	77	153	106
Interest expense on debt	<u>646</u>	<u>625</u>	<u>604</u>
	3,878	2,530	3,491
Income before income taxes			
	<u>873</u>	<u>517</u>	<u>769</u>
Income taxes			
Net income	<u>\$ 3,005</u>	<u>\$ 2,013</u>	<u>\$ 2,722</u>
Earnings per share			
Basic	\$ 12.16	\$ 7.88	\$ 10.32
Diluted	12.11	7.84	10.25

See accompanying notes to consolidated financial statements.

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, 2016

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

(State or other jurisdiction of
incorporation or organization)

13-2626465

(I.R.S. Employer
Identification No.)

1400 DOUGLAS STREET, OMAHA, NEBRASKA

(Address of principal executive offices)

68179

(Zip Code)

(402) 544-5000

(Registrant's telephone number, including area code)

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

Title of each Class

Name of each exchange on which registered

Common Stock (Par Value \$2.50 per share)

New York Stock Exchange, Inc.

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

☒ Yes ☐ No

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

☐ Yes ☒ No

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

☒ Yes ☐ No

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

☒ Yes ☐ No

- Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

☒

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

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

☐ Yes ☒ No

As of June 30, 2016, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was \$72.7 billion.

The number of shares outstanding of the registrant's Common Stock as of January 27, 2017 was 813,795,240.

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.

<i>Millions, Except per Share Amounts, Carloads, Employee Statistics, and Ratios</i>	2016	2015	2014	2013	2012
For the Year Ended December 31					
Operating revenues [a]	\$ 19,941	\$ 21,813	\$ 23,988	\$ 21,963	\$ 20,926
Operating income	7,272	8,052	8,753	7,446	6,745
Net income	4,233	4,772	5,180	4,388	3,943
Earnings per share - basic [b]	5.09	5.51	5.77	4.74	4.17
Earnings per share - diluted [b]	5.07	5.49	5.75	4.71	4.14
Dividends declared per share [b]	2.255	2.20	1.91	1.48	1.245
Cash provided by operating activities	7,525	7,344	7,385	6,823	6,161
Cash used in investing activities	(3,393)	(4,476)	(4,249)	(3,405)	(3,633)
Cash used in financing activities	(4,246)	(3,063)	(2,982)	(3,049)	(2,682)
Cash used for common share repurchases	(3,105)	(3,465)	(3,225)	(2,218)	(1,474)
At December 31					
Total assets	\$ 55,718	\$ 54,600	\$ 52,372	\$ 49,410	\$ 46,842
Long-term obligations [c]	32,146	30,692	27,419	24,395	23,847
Debt due after one year	14,249	13,607	10,952	8,820	8,754
Common shareholders' equity	19,932	20,702	21,189	21,225	19,877
Additional Data					
Freight revenues [a]	\$ 18,601	\$ 20,397	\$ 22,560	\$ 20,684	\$ 19,686
Revenue carloads (units) (000)	8,442	9,062	9,625	9,022	9,048
Operating ratio (%) [d]	63.5	63.1	63.5	66.1	67.8
Average employees (000)	42.9	47.5	47.2	46.4	45.9
Financial Ratios (%)					
Debt to capital [e]	43.0	40.7	35.0	31.0	31.0
Return on average common shareholders' equity [f]	20.8	22.8	24.4	21.4	20.5

[a] Includes fuel surcharge revenue of \$560 million, \$1.3 billion, \$2.8 billion, \$2.6 billion, and \$2.6 billion for 2016, 2015, 2014, 2013, and 2012, respectively, which partially offsets increased operating expenses for fuel. (See further discussion in Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Operating Revenues, Item 7.)

[b] Earnings per share and dividends declared per share are retroactively adjusted to reflect the June 6, 2014 stock split.

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

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

[e] Debt to capital is determined as follows: total debt divided by total debt plus common shareholders' equity.

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

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2021

OR

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

For the transition period from _____ to _____

Commission File Number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

Utah
(State or other jurisdiction of
incorporation or organization)

13-2626465
(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:

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

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

Large Accelerated Filer	☒	Accelerated Filer	☐	Non-Accelerated Filer	☐
Smaller Reporting Company	☐	Emerging Growth Company	☐		
- If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐
- Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered accounting firm that prepared or issued its audit report. ☒
- Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No
- As of June 30, 2021, the aggregate market value of the registrant's Common Stock held by non-affiliates (using the New York Stock Exchange closing price) was \$142.0 billion.

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

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

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

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

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

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

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

Our environmental liability balance and site activity was as follows:

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

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

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

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

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

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

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

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

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

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