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BEFORE THE
SURFACE TRANSPORTATION BOARD

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RAILROAD COST OF CAPITAL - 2020) EP 558 (Sub-No. 24)

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

WESTERN COAL TRAFFIC LEAGUE

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Dated: May 10, 2021

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BEFORE THE
SURFACE TRANSPORTATION BOARD

RAILROAD COST OF CAPITAL - 2020) EP 558 (Sub-No. 24)

REPLY STATEMENT OF THE WESTERN COAL TRAFFIC LEAGUE

Pursuant to the notice that the Surface Transportation Board (“STB” or “Board”) served in EP 558 (Sub-No. 24) on February 5, 2021, 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, 2021.

WCTL has one specific concern with the accuracy of the AAR’s submission. AAR Witness John T. Gray presents the average market value for the debt for the Class I railroads included in the composite sample in Table No. 2 at page 10 of his Verified Statement (“Gray VS”). Those values differ significantly from the fair market values that the Class I railroads report in their own 10-K reports. The following table contrasts the AAR’s values with the 10-K values and also provides the page references for the 10-K values:

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.

Table 1 Comparison of AAR and 10-K Market Values of Debt			
Railroad	AAR Value	Railroad 10-K	Source
CSX	\$19,383,989	\$21,076,000	2020 10-K at p. 83
KSU	\$4,073,354	\$4,368,600	2020 10-K at p. 73
NSC	\$14,998,999	\$16,664,000	2020 10-K at p. K51
UNP	\$27,056,661	\$31,900,000	2020 10-K at p. 73
Total	\$65,513,003	\$74,008,600	

See WCTL e-workpaper at Table 1. The values reported in the 10-K are 13% greater than those presented by the AAR, which is a significance variance.

The explanation may be that the AAR uses average monthly market values and the 10-Ks present end of year values. Even so, some reconciliation should still be provided. In that regard, the AAR's hardcopy workpapers provide a reconciliation of the AAR's market values to the 10-K values, but that reconciliation is made to the carrying or book values in the 10-Ks, and not the fair (market) value. See AAR hardcopy workpapers at pp. 19-24 (marked "DebtReoncile 2020").

The need for such a reconciliation to the reported market values is increased because the AAR utilizes proprietary, nondisclosed Bloomberg data to obtain the monthly prices and yields. Gray VS at 8 & n.7. Mr. Gray's statement further represents that the Bloomberg data is based on actual trades. *Id.* at 9. However, the 10-Ks describe the fair values as Level 2 inputs, indicating that they are not based on directly observed trades, but instead inferred from prices for similar securities. The uncertainty as to the degree of attenuation increases the need for reconciliation. At a minimum, a reconciliation of the AAR's Bloomberg December values to the 10-K end of year values

should be feasible and would provide some check on the soundness of otherwise undisclosed data and associated valuations.

Otherwise, WCTL's review of the AAR's filing and the associated workpapers does not reveal any mathematical or associated data errors. Furthermore, the AAR's cost of capital ("COC") figure of 7.89% for 2020 represents a substantial (15.5%) decrease from the 9.34% that the Board determined for the 2019 COC, and a very sharp (35.4%) decline from the 12.22% figure that the Board determined for the 2018 COC.

Notwithstanding the impact of the Covid pandemic and its impacts, including the decline in interest rates, WCTL is skeptical that the railroad industry COC could decline so precipitously in just two years. Instead, the changes appear due in substantial part to the instability in the Multi-Stage Discounted Cash Flow model ("MSDCF") utilized by the Board. WCTL has previously explained how the MSDCF's instability results from the model's excessive sensitivity to changes in the analyst growth rates, particularly with the absence of a transition in the second stage, the redefinition of cashflows for the third stage, and the failure to adjust for stock buybacks.

Putting causation aside, the COC value produced by the Board's methodology is much closer, although it remains somewhat overstated, to the independent benchmark values that WCTL has identified in its past filings.

For example, 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 6, 2021, *i.e.*, before the railroads released full-year data for

the year 2020. Morgan Stanley’s report presents WACC figures of 7.5% for CSX, 7.3% for KSU, 7.5% for NSC, and 7.2% for UNP. Those values are nearly identical to those Morgan Stanley published a year earlier, on December 16, 2019, and January 6, 2020, which were 7.4% for CSX, 7.1% for KSU, 7.5% for NSC, and 7.0% for UNP. (WCTL presented the earlier values as part of its comments on the 2019 COC.) The fact that Morgan Stanley’s values have remained virtually constant indicates that the railroad COC has not actually declined at all during the past year.

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 is 7.34%:

Table 2		
Weighted Average of Morgan Stanley Cost of Capital Values for 2020		
Carrier	Weight	Cost of Capital
CSX	24.001%	7.50%
KSU	6.607%	7.30%
NSC	20.870%	7.50%
UNP	48.522%	7.20%
Average		7.34%

The calculation is presented in WCTL’s e-workpaper at “Table 2.”

Furthermore, the 7.34% 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 Duff & Phelps, along with the other values developed by the AAR. Specifically, Duff & Phelps reduced its recommended MRP

from 6.0% to 5.5% effective December 9, 2020.² Applying that MRP under the CAPM, along with a “normalized” RFR of 2.5% also recommended by Duff & Phelps starting June 30, 2020, yields a CAPM cost of equity of 8.46% and a COC of 7.17% as follows:

Table 3				
Derivation of Cost of Capital for Industry Composite Sample Using Only CAPM with Duff & Phelps 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	5.5%	Debt	21.16%	2.548%
Beta (Composite Sample)	1.0741	Equity	78.84%	8.41%
Cost of Equity	8.46%	Average COC		7.17%

The calculation is shown on WCTL’s electronic workpaper at “Table 3.”

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 (7.25%) 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 MRP for 2020 (7.25%) is actually slightly higher than the value for 2019 (7.15%), 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 two MRPs highlights the problems 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

² See <https://www.duffandphelps.com/insights/publications/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates>.

1.35% RFR presented by the AAR results in a cost of equity of 7.31%, and an overall COC of 6.30%:

Table 4				
Derivation of Cost of Capital for Industry Composite Sample Using Only CAPM with Duff & Phelps Current Market Risk Premium				
CAPM Cost of Equity		Industry Cost of Capital		
Risk-Free Rate	1.35%	Component	Weight	Cost
Market-Risk Premium	5.5%	Debt	21.16%	2.548%
Beta (Composite Sample)	1.0741	Equity	78.84%	7.46%
Cost of Equity	7.26%	Average COC		6.26%

The calculation is shown on WCTL’s electronic workpaper at “Table 4.” This calculation highlights how the AAR’s COC for 2020, while reduced from the 2019 value, remains overstated.

Finally, 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 values are available at <http://www.stern.nyu.edu/~adamodar/pc/datasets/histimpl.xls>. As of the end of 2020, the implied MRP was 4.72% based on a 10-year Treasury Bond rate of 0.93%. Utilizing those values in the CAPM formula along with the AAR’s other inputs yields a cost of equity of 6% and an overall COC of 5.27%:

Table 5				
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	0.93%	Component	Weight	Cost
Market-Risk Premium	4.72%	Debt	21.16%	2.548%
Beta (Composite Sample)	1.0741	Equity	78.84%	6.00%
Cost of Equity	6.00%	Average COC		5.27%

The calculation is shown on WCTL’s electronic workpaper at “Table 5.”

WCTL also wishes to respond to Mr. Gray’s assertion that even though the 2019 beta “is the lowest since 2009 ... this is the twelfth 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 35-36. His claim that the railroad stocks are regarded as having more risk than the market generally is an oversimplification³ and an overstatement.

The STB’s beta for the composite sampled peaked in 2013 at 1.3499 and has declined every year since 2013, at least establishing the possibility that the value may be reverting to values lower than 1.0. Furthermore, Mr. Gray’s period includes data from the financial collapse, when financial and economic conditions were very unusual and in flux. 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

³ The AAR derives a standard error of 0.05477937 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 1.094). *E.g.*, Brealey, Myers and Allen, *Principles of Corporate Finance* (10th ed. 2011), at 217-18.

annually, sudden changes from year-to-year are unlikely, and a consecutive streak is not as remarkable as it might first appear. Recent railroad betas hit their peak in 2013 at 1.3499, and have now decreased six 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 <https://www.infrontanalytics.com/fe-EN/30444NU/Union-Pacific-Corporation/Beta>. That data, as of May 4, 2021, shows that of the four carriers in the sample, only one, UP, has a one-year levered beta over 1.09 (at 1.26). In contrast, KCS, NS, and CSX have one-year betas of 0.86, 1.00, and 0.38. Mr. Gray's claim "that railroad stocks are consistently more volatile and are regarded as having more risk than does the market generally" is thus an overstatement.

CONCLUSION

WCTL appreciates that the AAR's calculations under the Board's methodology yield a more realistic COC for 2020 than has ever been the case previously. Nonetheless, the AAR's value remains on the high side relative to several independent benchmarks. WCTL's concern is that the convergence will prove to be temporary, particularly as the pandemic abates, interest and growth rates rise, and the MSDCF reverts to its excessive sensitivity to overstated growth rates.

Respectfully submitted,

WESTERN COAL TRAFFIC LEAGUE

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Dated: May 10, 2021

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CERTIFICATE OF SERVICE

I hereby certify that on this 10th day of May 2021, 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. 24) 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 6, 2021 05:01 AM GMT

Freight Transportation | North America

4Q20 Preview: The Foundation for the Rebuild

4Q results will likely be seen as the foundation on which lofty 2021 consensus EPS and valuations are built and, as such, have little room for error. Misses are likely to be punished more than beats are rewarded.

We expect stable 4Q results across the space – largely a continuation of 3Q trends. We are modeling 9 beats, 11 misses and 3 in-line results. We enter another earnings season with one part of the group (TLs) pricing in extreme peak cycle fears, with the rest of the space (LTL, Rail, Brokers, Parcel) trading at/near record multiples on above-normalized earnings levels in 2021 – which makes little sense to us. **The key debates into the prints are (1) is earnings momentum already priced in? and (2) how much do numbers really matter?** As such, soft 4Q results/commentary could drive cracks into the foundation on which the current elevated multiples/forward consensus EPS are built, which could sap momentum from the stocks. On the other hand, if fundamentals continue to take a back seat to technicals, investors could continue to look at the group as a glass half full and keep 2020's momentum afloat. As always with 4Q earnings, focus will be on 2021 outlook/commentary and despite continued macro murkiness, **we expect management teams to cautiously ease into guidance territory again.**

What to look for:

- 1. Rails/IMCs:** For the Rails, we expect 4Q results to largely look like 3Q results. Volume improvement progression continued at a slow and steady pace but mix is likely to be a headwind once again, albeit not as much as in 3Q. Costs are likely to be more of a headwind both due to normal seasonality as well as increased volumes. **A key focus area will be incremental margins** - can the rails meet or beat the ~80% seq. incrementals they did in 3Q? As we highlighted in our [2021 Outlook](#), **we believe consensus estimates for 2021/22 are too high, driven by volumes and incremental margin expectations.** US Rail mgmt. teams are likely to cautiously wade back into guidance territory on volumes / FY OR, which is unlikely to result in numbers moving higher, in our view.
- 2. TL/LTLs:** 4Q was a good but not necessarily needle-moving quarter for TLs. Rate strength likely drove top-line improvement though early driver pay increases may have at least partially offset. **All eyes will be on updates on contract pricing negotiations expected in 1Q/2Q – we expect TL mgmt teams to continue to sound very bullish on the cycle.** LTLs will see a continuation of the 3Q trend of relatively soft tonnage, modest pricing but strong incremental margin gains.

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Freight Transportation

North America
IndustryView In-Line

What's Changed	FROM	TO
C.H. Robinson Worldwide Inc. (CHRW.O)		
Price Target	\$53.00	\$54.00
Canadian Pacific Railway Ltd. (CP.TO)		
Price Target	C\$430.00	C\$450.00
TFI International Inc (TFII.N)		
Price Target	\$60.00	\$61.00
Expeditors International of Washington I (EXPD.O)		
Price Target	\$72.00	\$74.00
Norfolk Southern Corp. (NSC.N)		
Price Target	\$134.00	\$135.00
ArcBest Corp (ARCB.O)		
Price Target	\$55.00	\$57.00
Landstar System Inc (LSTR.O)		
Price Target	\$80.00	\$83.00
Hub Group Inc (HUBG.O)		
Price Target	\$44.00	\$46.00
Kansas City Southern (KSU.N)		
Price Target	\$138.00	\$142.00
J.B. Hunt Transport Services Inc. (JBHT.O)		
Price Target	\$110.00	\$115.00

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

Check out our 2021 outlooks here:

[Freight Transportation: 2021 Rail Outlook: Consensus Earnings + Multiples Raise the Bar Too High \(10 Dec 2020\)](#)

[Freight Transportation: 2021 TL/LTL/3PL Outlook: What Peak? Keep on Trucking in 2021 \(10 Dec 2020\)](#)

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

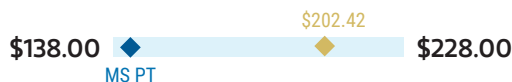
Risk Reward – Kansas City Southern (KSU.N)

Mexico Growth Story with Sustainable PSR Approach

PRICE TARGET \$142.00

We use a 10-year DCF assuming 7.3% WACC and terminal cash flow perpetual growth rate of 2.5%. Our DCF valuation implies a fwd P/E of ~18x, which is below KSU's historical avg. given our cautious outlook on rails.

Consensus Price Target Distribution

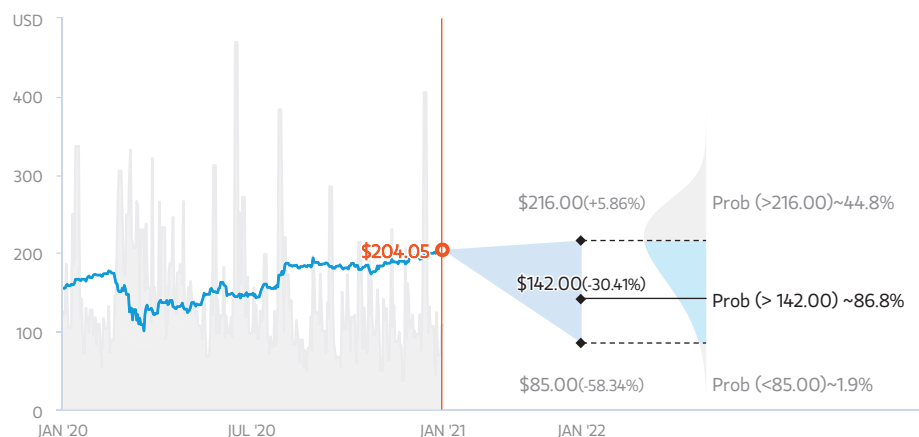


Source: Thomson Reuters, Morgan Stanley Research

EQUAL-WEIGHT THESIS

KSU's growth opportunity in Mexico is one of the best secular themes in Rails though we are somewhat concerned about macro and geopolitical risks in the region. We continue to like KSU's PSR approach best – where PSR is one of the tools at their disposal and not the end-all of the company's strategy. Operating quality has been somewhat of a mixed bag in the last few years and KSU's premium multiple vs. peers has narrowed significantly from its historical level.

RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Thomson Reuters, 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 05 Jan, 2021. 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](#)

Consensus Rating Distribution



● MS Rating

Source: Thomson Reuters, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Negative*
Share Gain: *Negative*
Out of consensus: *Negative*

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

BULL CASE

\$216.00

26x Base Case on NTM EPS

A Private Buyout. Our bull case for KSU reflects the potential for a buyout as has been reported in various news outlets. While we have limited precedent transactions for a private buyout of a Class 1 Rail, GWR (a short line railroad) which was acquired by a PE firm in 2019 received a ~40% premium (to the price of the stock before rumors began to circulate). We use KSU's peak multiple as a proxy for a potential buyout value. Note that we have no knowledge of any potential transactions.

BASE CASE

\$142.00

18x Base Case on NTM EPS

Short, sharp recession with a steady recovery. 3Q marks a sharp seq. recovery for the broader economy with "normalized" growth from there Industrial/bulk commodity end markets lag while IM suffers from increased competition with truck.

BEAR CASE

\$85.00

13.5x Bear Case on NTM EPS

Recovery turns sluggish. 3Q marks a sharp seq. recovery for the broader economy but growth turns more sluggish from there with Industrial/bulk commodity end markets hit the hardest while IM suffers from increased competition with truck.

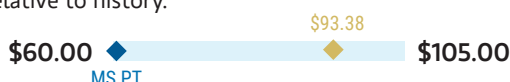
Risk Reward – CSX Corporation (CSX.O)

Challenged End Markets and Potentially Unsustainable OR

PRICE TARGET \$60.00

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



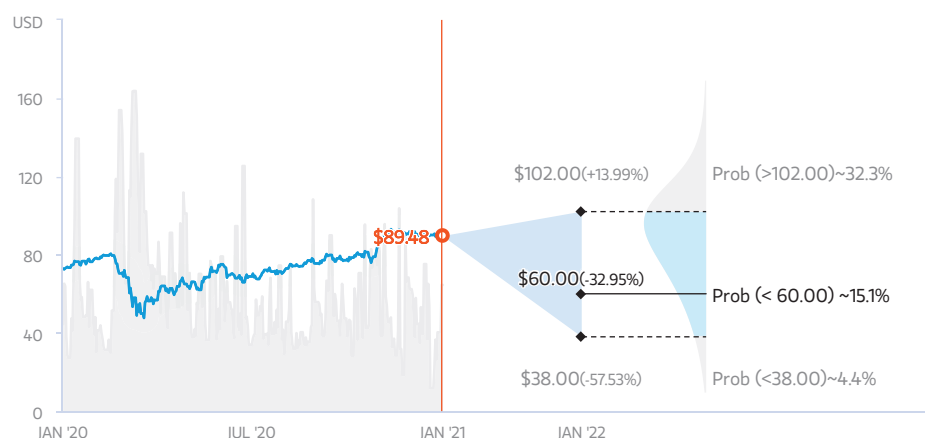
Source: Thomson Reuters, Morgan Stanley Research

◆ Mean ◆ Morgan Stanley Estimates

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 (UNP, NSC and KSU) but valuation is significantly higher than history. The combination of topline headwinds, high bar on cons. EPS and high multiple keeps us UW.

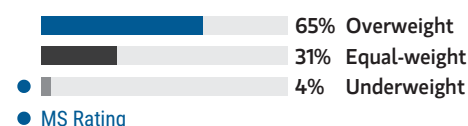
RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Thomson Reuters, 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 05 Jan, 2021. 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](#)

Consensus Rating Distribution



Source: Thomson Reuters, Morgan Stanley Research

Risk Reward Themes

Out of consensus: *Negative*
Regulation: *Negative*
Secular Growth: *Negative*

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

BULL CASE

\$102.00

25x Bull Case on NTM EPS

Post 2Q recovery accelerates. 4Q continues a seq. recovery for the broader economy and growth stays robust / accelerates from there industrial /bulk commodity end markets keep up while IM competition with truck eases.

BASE CASE

\$60.00

15x Base Case on NTM EPS

Short, sharp recession with a steady recovery. 4Q continues a recovery for the broader economy with "normalized" growth from there but industrial /bulk commodity end markets lag while IM suffers from increased competition with truck.

BEAR CASE

\$38.00

12.0x Bear Case on NTM EPS

Recovery turns sluggish. 4Q continues a recovery for the broader economy but growth turns more sluggish from there with industrial /bulk commodity end markets hit the most while IM suffers from even more competition with truck as pricing normalizes (all in ~75% of CSX volumes).

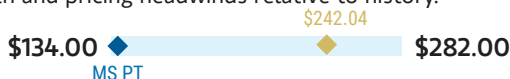
Risk Reward – Norfolk Southern Corp. (NSC.N)

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

PRICE TARGET \$135.00

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.

Consensus Price Target Distribution



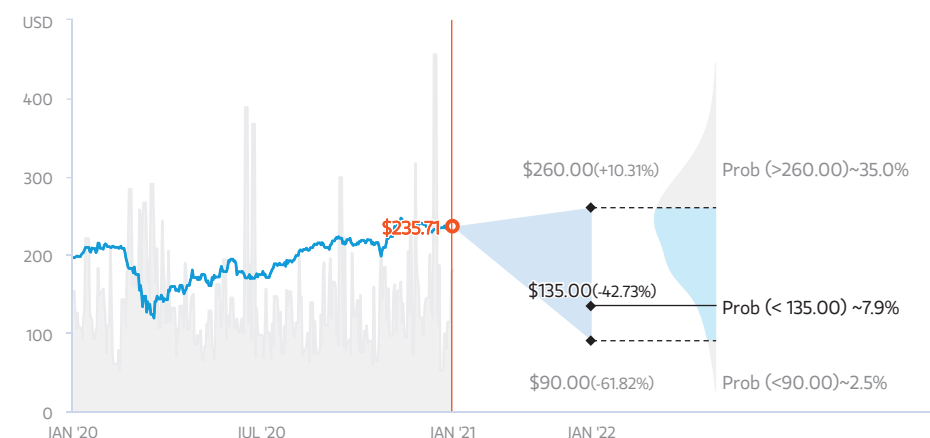
Source: Thomson Reuters, Morgan Stanley Research

◆ Mean ◆ Morgan Stanley Estimates

UNDERWEIGHT THESIS

We believe NSC has a topline issue instead of a cost issue, with revenues significantly eroded by the decline of coal and a highly competitive IM market in the East. We expect the revenue headwinds to continue. The market is focused on PSR cost gains but we believe consensus expectations may be too high for NSC, esp. given the need to grow topline to deliver PSR gains.

RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Source: Thomson Reuters, 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 05 Jan, 2021. 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](#)

Consensus Rating Distribution



Source: Thomson Reuters, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Negative*
Share Gain: *Negative*
Out of consensus: *Negative*

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

BULL CASE

\$260.00

25x Bull Case on NTM EPS

Post 2Q recovery accelerates. 4Q marks a sharp seq. recovery for the broader economy and growth stays robust / accelerates from there and Industrial/bulk commodity end markets keep up while IM competition with truck eases (though some share is still lost to expedited modes like Air and Truck occurs).

BASE CASE

\$135.00

14x Base Case on NTM EPS

Short, sharp recession with a steady recovery. 3Q marks a sharp seq. recovery for the broader economy with "normalized" growth from there but Industrial/bulk commodity end markets lag while IM suffers from competition with truck (~100% of NSC volumes).

BEAR CASE

\$90.00

10.0x Bear Case on NTM EPS

Recovery turns sluggish. 3Q marks a sharp seq. recovery for the broader economy but growth turns sluggish from there with Industrial/bulk commodity end markets hit hard. IM suffers from even more competition with truck as pricing normalizes in 2H.

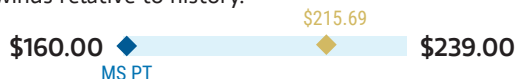
Risk Reward – Union Pacific Corp. (UNP.N)

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

PRICE TARGET \$160.00

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 ~17x, 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.

Consensus Price Target Distribution



Source: Thomson Reuters, Morgan Stanley Research

◆ Mean ◆ Morgan Stanley Estimates

EQUAL-WEIGHT THESIS

We have a bearish outlook on several end markets including intermodal and coal. We also worry about PSR implementation during a potential macro slowdown and high investor expectations on LT sustainable OR. While UNP's mgmt. team is highly accomplished, revenue headwinds may overwhelm.

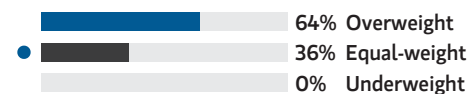
RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Thomson Reuters, 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 05 Jan, 2021. 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](#)

Consensus Rating Distribution



● MS Rating

Source: Thomson Reuters, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Negative*
Share Gain: *Negative*
Out of consensus: *Negative*

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

BULL CASE

\$240.00

26x Bull Case on NTM EPS

Post 2Q recovery accelerates. 3Q marks a sharp seq. recovery for the broader economy and growth stays robust / accelerates from there with Industrial /bulk commodity end markets able to keep up. IM sees fairly normal competition with truck.

BASE CASE

\$160.00

19x Base Case on NTM EPS

Short, sharp recession with a steady recovery. 3Q marks a sharp seq. recovery for the broader economy with "normalized" growth from there but Industrial /bulk commodity end markets (~50% of volumes) lag while IM suffers from increased competition with truck (~50% of volumes).

BEAR CASE

\$100.00

15x Bear Case on NTM EPS

Recovery turns sluggish. 3Q marks a sharp seq. recovery for the broader economy but growth turns more sluggish from Industrial /bulk commodity end markets under the most pressure while IM suffers from even greater competition with truck as prices do not surge through YE.

Table 1			
Comparison of AAR and 10-K Market Values of Debt			
Railroad	AAR Value	Railroad 10-K	Source
CSX	\$19,383,989	\$21,076,000	2020 10-K at p. 83
KSU	\$4,073,354	\$4,368,600	2020 10-K at p. 73
NSC	\$14,998,999	\$16,664,000	2020 10-K at p. K51
UNP	\$27,056,661	\$31,900,000	2020 10-K at p. 73
Total	\$65,513,003	\$74,008,600	

Table 2
Average of Morgan Stanley
Cost of Capital Values for 2019

Carrier	Weight	Cost of Capital
CSX	24.001%	7.50%
KSU	6.607%	7.30%
NSC	20.870%	7.50%
UNP	48.522%	7.20%
Average		7.34%

Table 3
Derivation of Cost of Capital for Industry Composite Sample
Using Only CAPM with Duff & Phelps
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%	2.54%
Beta	1.0741	Equity	78.84%	8.41%
Cost of Equity	8.41%	Average		7.17%

Source: Inputs taken from AAR filing, except for Market-Risk Premium and Risk-Free Rate are taken from Duff & Phelps as of the end of 2020.

Table 4

Derivation of Cost of Capital for Industry Composite Sample
 Using Only CAPM with Duff & Phelps Current Market Risk Premium

CAPM Cost of Equity		Industry Cost of Capital		
		Component	Weight	Cost
Risk-Free Rate	1.35%	Debt	21.16%	2.54%
Market-Risk Premium	5.50%	Equity	78.84%	7.26%
Beta	1.0741	Average		6.26%
Cost of Equity	7.26%			

Source: Inputs taken from AAR filing, except for Market-Risk Premium is taken from Duff & Phelps as of the end of 2020.

Table 5

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	0.93%	Component Weight	Cost
Market-Risk Premium	4.72%	Debt 21.16%	2.54%
Beta	1.0741	Equity 78.84%	6.00%
Cost of Equity	6.00%	Average	5.27%

Source: Inputs taken from AAR filing, except for Market-Risk Premium and Risk-Free Rate are taken from Professor Damodaran as of the end of 2020.