

PRELIMINARY Valuation Estimate for the Cincinnati Southern Railway

DRAFT – Privileged & Confidential
Prepared at the Request of Counsel

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DECEMBER 22, 2021



Agenda

1. Scope
2. Importance of Cincinnati Southern Railway (“CSR”) to NS
3. Method 1: Replacement Cost
4. Method 2: Opportunity Cost
5. Method 3: 2009 NS Offer
6. Preliminary Valuation Range
7. Next Steps



Scope

We have been asked to provide a **preliminary** estimate of the value of CSR as of 12/31/2026 that might be used in the context of arbitration proceedings against NS

We propose three methods:

- Replacement Cost: Cost for NS to build a similar line (less depreciation)
- Opportunity Cost: The value that NS receives from having access to the line
- 2009 NS Offer: The value implied by the NS 2009 offer to buy the property

In preparing this analysis, we have had limited access to data and other information that would be important to determining a more precise value, including:

- CSR and NS system traffic flows
- Operating costs, capex, and profit margins for CSR and NS
- Book values, depreciation, and remaining useful lives of CSR assets
- Competition for traffic relying on CSR

CSR Is Critical to NS Operations

- 2018 NS materials show CSR to be one of its most heavily travelled routes (red oval)
- Absent access to CSR, NS would be required to re-route traffic:
 - Alternative routes are longer
 - Alternative routes may require investment to expand capacity to handle traffic without CSR
- CSR also provides NS with an advantage for traffic originating & terminating on the line



Replacement Cost Methodology

Replacement cost is the amount NS would have to spend to replicate CSR functionality

- Replacement cost new (“RCN”) is cost to buy land and build a new line, *but NS would never pay RCN for partially depreciated CSR facilities*
- RCN less depreciation (“RCNLD”) is RCN reduced for “used” status of CSR facilities
- Both are adjusted for inflation to 2026 and amount of double-tracking

Bases for rough estimation of RCNLD:

- RCN: NS’s own estimate of cost to acquire CSR right-of-way and build a **new** line, from a 2009 DuPont rate proceeding. Adjusted for inflation to 2026 and amount of double tracking.
- RCNLD Method #1: Starts with RCN from DuPont, then assumes CSR facilities are half-way through their life given that CSR has been in a largely steady state over long periods, so on average assets are mid-life
- RCNLD Method #2: Based on NS system-wide RCNLD/mile calc’d from NS financial statements

Estimated Replacement Cost New Less Depreciation

Estimated Replacement Cost New Less Depreciation, 2026 Dollars

Methodology		Construction					Total Replacement Cost (\$M)
		Land Cost (\$M)	Road Property Investment, Unadjusted (\$M/mile)	Road Property Investment, Adjusted for Double-Tracking (\$M/mile)	CSR Route-Miles	Road Property Investment	
		[1]	[2]	[3]	[4]	[5]	[6]
RCNLD #1	[A]	\$231.4	\$3.3	\$3.2	335.7	\$1,076.0	\$1,307.3
RCNLD #1a	[B]	\$231.4	\$4.0	\$3.8	335.7	\$1,291.1	\$1,522.5
RCNLD #2	[C]	\$231.4	\$1.6	\$1.9	335.7	\$621.4	\$852.8

\$852.8

Sources and Notes:

[1]: Across-the-Fence Real Estate (ROW) Cost using DuPont rate case, including assumed appreciation of land value.

[2][A]: Calculated using STB values from DuPont Rate case, assuming 50% depreciation.

[2][B]: Calculated using STB values from DuPont Rate case, assuming 40% depreciation.

[2][C]: Depreciated construction cost estimate calculated using Schedules 330, 332, 335, and 755 of the 2020 NS R-1.

[3] = [2], but taking account of the amount of double-tracking along CSR in relation to the benchmark.

[4]: From the National Transportation Atlas Database.

[5]=[3]x[4].

[6]=[1]+[5].

Likely understated

Caveats on Replacement Costs Figures

RCN is not a reasonable comparable for CSR value because new facilities would have a longer useful life and may require lower near-term maintenance

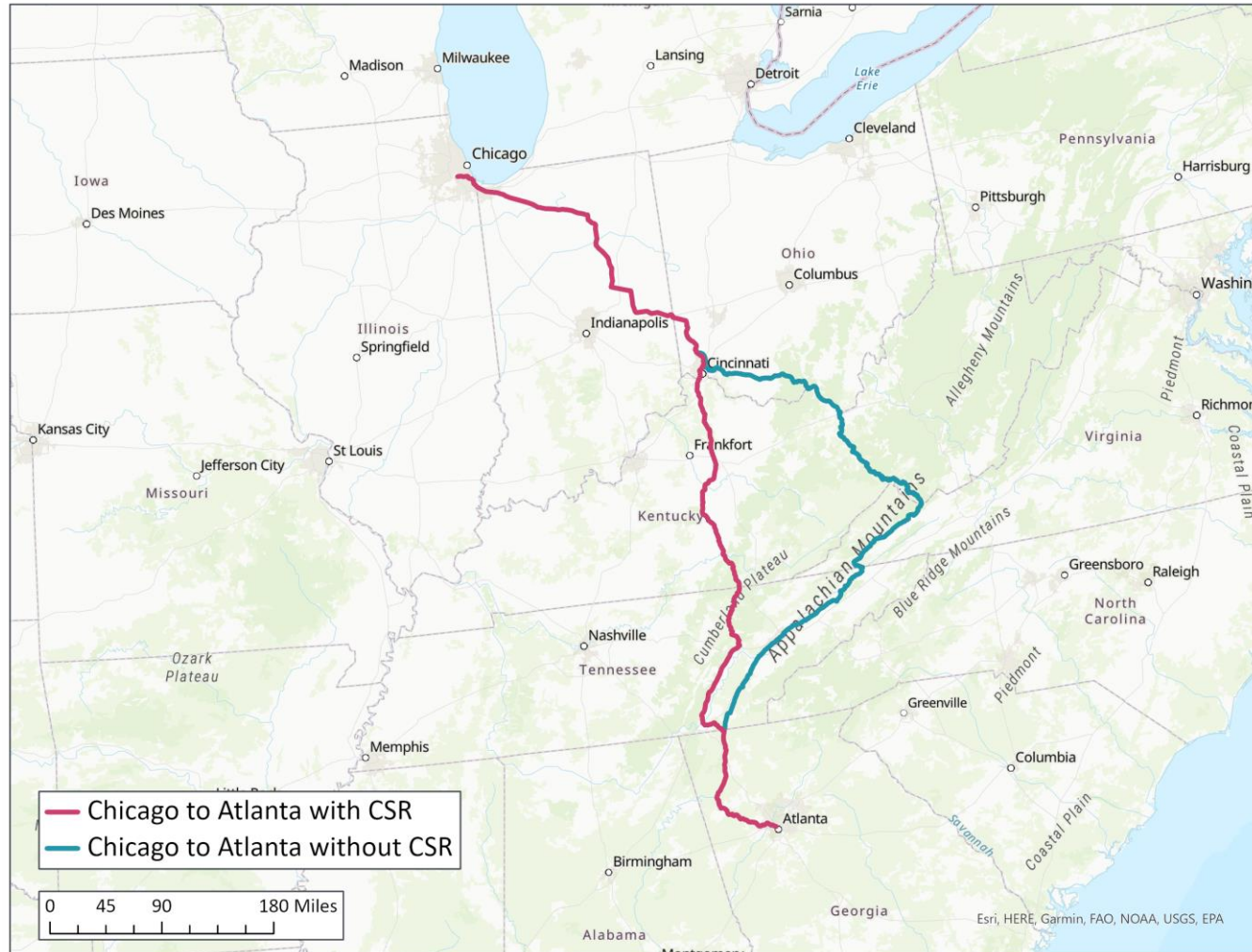
“Comparability” of route cost/facilities between hypothetical DuPont line and CSR has not been fully assessed to date

NS financial statements suggest a low value

- Cause cannot be determined
- May be the result of significant facilities that are fully depreciated, but continue to have ongoing value and therefore remain on the books

“Across-the-fence” (ATF) method for valuing the land is likely an underestimate, due to factors including hold-up problems and the need for extensive transactions costs. We have not yet fully assessed what an appropriate “corridor factor” (CF) would be.

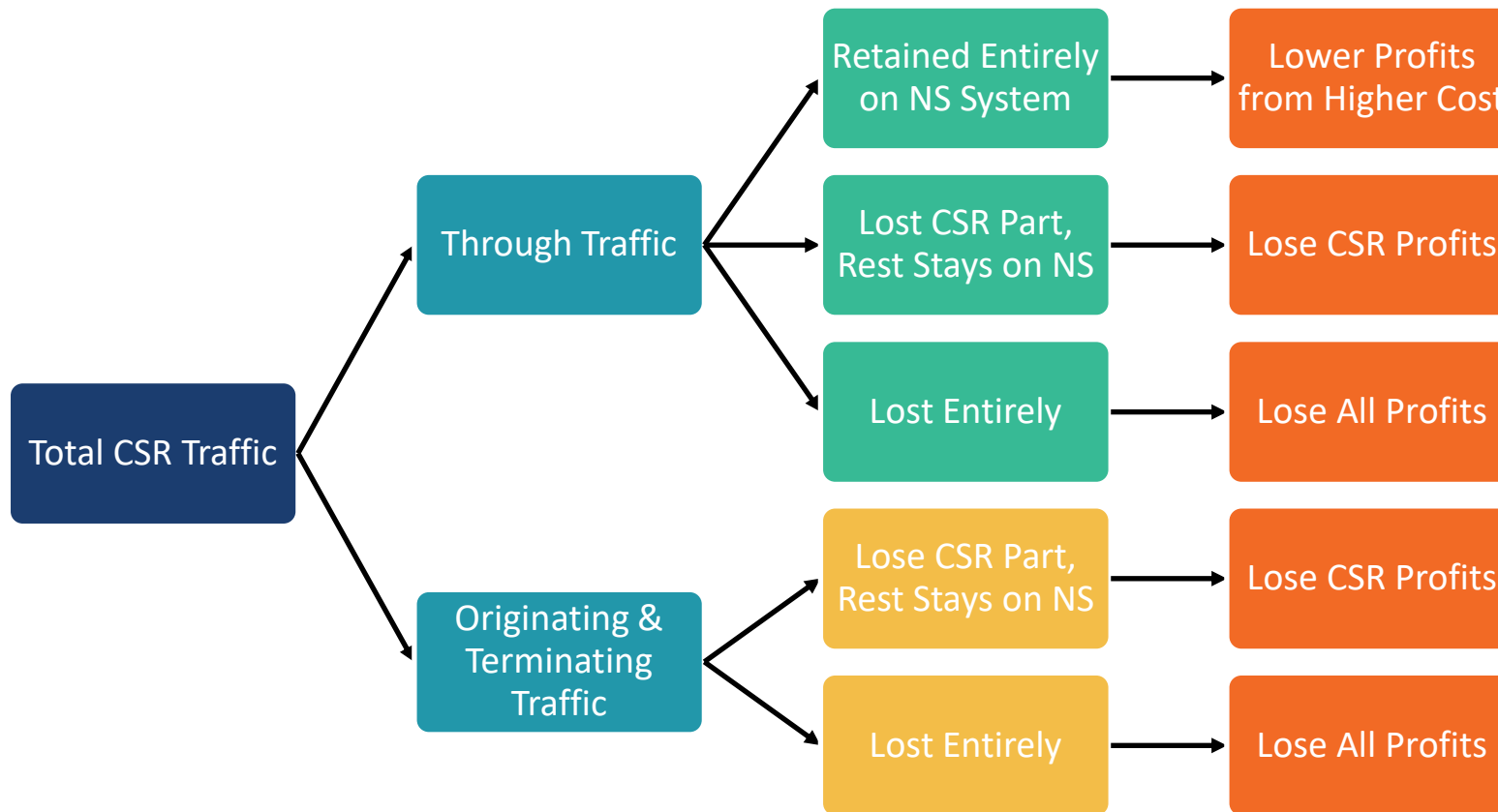
Loss of CSR Increases NS Mileage on Chicago-Atlanta Route



- Movement is 786 miles with CSR, 1,013 miles without
- CSR saves NS 227 miles on this route
- Longer route means:
 - Higher variable costs
 - Longer haul times
 - CSX becomes more attractive to customers for whom CSX is an option
- Same problem affects other key NS routes like Chicago-Jacksonville and KC-Atlanta

Impact from Loss of CSR Access on NS

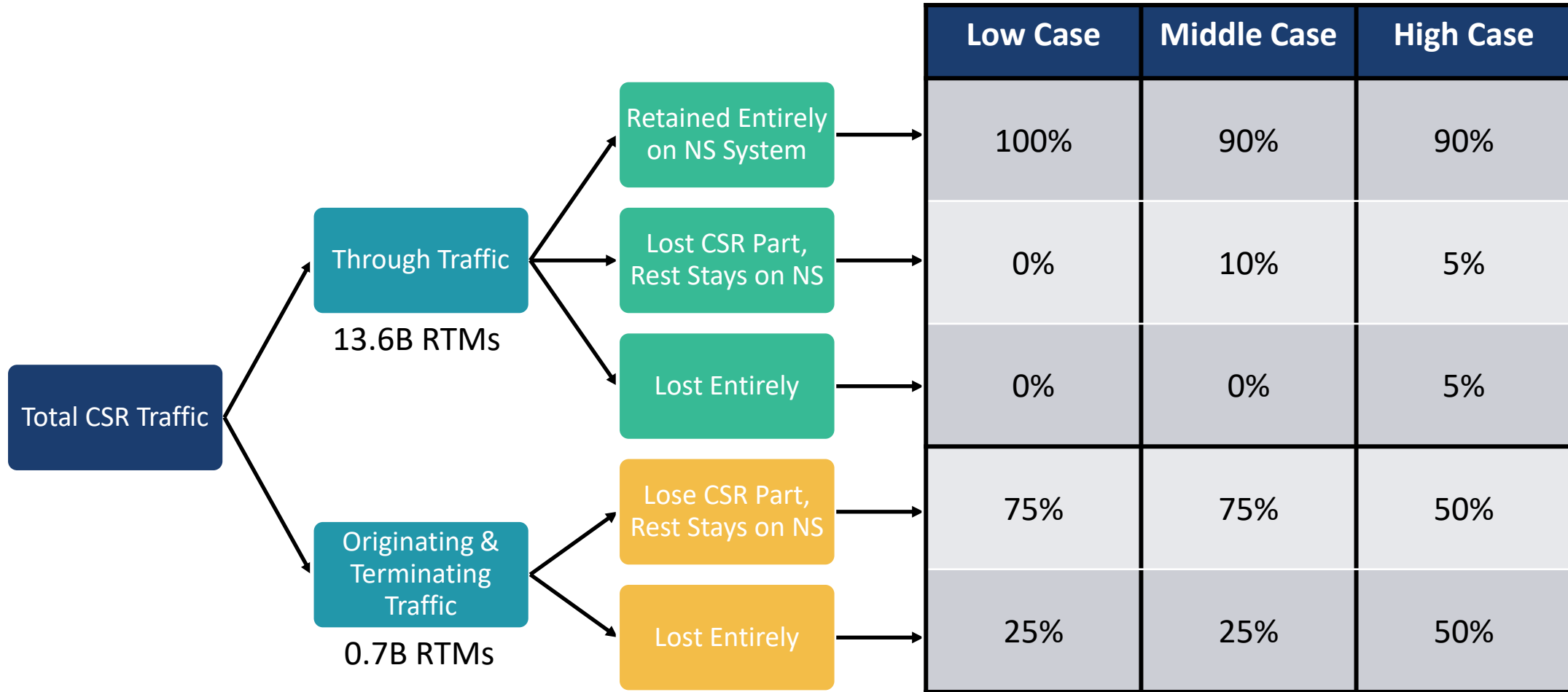
#1: Lose Profits on CSR-Related Traffic



#2: Avoid CSR-Related Costs

- Costs to operate, repair, and maintain the CSR line
- Capex required to maintain the CSR line
- Property taxes on the line
- Income taxes on the profits

Scenarios Analyzed



Basis for Scenarios

Use of CSR	Low	Middle	High
Through	<p>New CSR owner charges a rate equal to what it would cost to reroute the traffic on other parts of NS system assuming:</p> <ul style="list-style-type: none"> • No lost customers • No pass through of higher costs • No capacity constraints on alternative NS routes 	<ul style="list-style-type: none"> • For 90% of traffic, new CSR owner charges a rate equal to NS cost to reroute on NS system • 10% of traffic would be lost if rerouted, so new owner of CSR can capture half the NS system profit/mile on CSR miles 	<ul style="list-style-type: none"> • For 90% of traffic, new CSR owner charges a rate equal to NS cost to reroute on NS system • 10% of traffic lost if rerouted, so: <ul style="list-style-type: none"> • 5% stays on CSR, with new owner captures half of NS profit/mile on CSR miles • Other 5% is lost entirely, losing all NS profits
Originating/ Terminating on Line	<ul style="list-style-type: none"> • CSR owner captures share of current NS profits on traffic originating or terminating on CSR • NS can maintain 75% of traffic connecting to/from CSR, retaining all off-CSR profits on this traffic 	Same as low	<ul style="list-style-type: none"> • CSR owner captures share of current NS profits on traffic originating or terminating on CSR (same as low) • NS can maintain 50% of traffic connecting to/from CSR, retaining all off-CSR profits on this traffic

Estimated Annual Losses to NS Before Avoided Costs by Case

		Low Case	Middle Case	High Case	Notes
Added Costs on Retained, Rerouted Traffic					
Estimated Number of Re-Routed Cars/Year ('000s)	[1]	513	462	462	Brattle estimate based on NS data provided to CSR.
Added Miles from Re-Routing	[2]	228	228	228	Brattle estimate from network analysis.
Estimated Variable Cost per Car-Mile (\$)	[3]	\$0.78	\$0.78	\$0.78	Brattle estimate from 2019 NS R-1.
Total Added Costs (\$ millions)	[4]	\$91	\$82	\$82	[1]x[2]x[3]/1,000.
Profits Ceded to New Operator of CSR					
RTMs Continuing to Operate on CSR (millions)	[5]	527	1,887	1,031	Brattle estimate based on NS data provided to CSR.
Operating Margin/RTM (\$)	[6]	0.04	0.04	0.04	Brattle estimate based on 2019 NS R-1.
Percent of NS Margin Captured by CSR	[7]	50%	50%	20%	Brattle assumption.
Forgone Profits on Traffic Staying on CSR (\$ millions)	[8]	\$10	\$37	\$8	[5]x[6]x[7].
Profits Lost from Traffic No Longer Travelling on NS					
Tonnage Lost to NS System ('000s)	[9]	1,046	1,046	4,118	Brattle estimate based on NS data provided to CSR.
Average Miles/Ton on NS System	[10]	541	541	541	Brattle estimate from 2019 NS R-1.
Operating Margin/RTM (\$)	[11]	\$0.04	\$0.04	\$0.04	Brattle estimate from 2019 NS R-1.
Losses Due to Lost NS System Traffic (\$ millions)	[12]	\$22	\$22	\$88	[9]x[10]x[11]/1,000.

Minor differences due to rounding.

Translating Annual NS Loss into a Value of CSR to NS

		Low Case	Middle Case	High Case	Notes
Added Costs on Retained, Rerouted Traffic (\$ millions)	[1]	\$91	\$82	\$82	See prior slide.
Profits Ceded to New Operator of CSR (\$millions)	[2]	\$10	\$37	\$20	See prior slide.
Profits Lost from Traffic No Longer Travelling on NS (\$millions)	[3]	\$22	\$22	\$88	See prior slide.
Total Lost Profits from Lost or Rerouted Traffic (\$ millions)	[4]	\$124	\$142	\$191	Sum of [1]-[3].
Opex Savings Because CSR Is No Longer Being Operated (\$ millions)	[5]	(\$32)	(\$32)	(\$32)	Brattle estimate from 2019 NS R-1 (Road Opex/Road-Mile).
Pre-Tax Losses without CSR (\$ millions)	[6]	\$92	\$110	\$159	[4]+[5].
Income Taxes at Marginal Corporate Tax Rate (\$ millions)	[7]	(\$22)	(\$26)	(\$37)	Taxed at a rate of 23.51%.
After-Tax Losses without CSR (\$ millions)	[8]	\$70	\$84	\$121	[6]+[7].
Addback of Depreciation (Non-Cash Expense) (\$ millions)	[9]	\$15	\$15	\$15	Brattle estimate from 2019 NS R-1 (Road Deprec./Road-Mile).
Capex Savings Because CSR Is No Longer Being Operated (\$ millions)	[10]	(\$25)	(\$25)	(\$25)	Brattle estimate from 2019 NS R-1 (Road Capex/Road-Mile).
After-Tax Cash Flows (\$ millions)	[11]	\$60	\$74	\$111	Sum of [8]-[10].
Discount Rate in Real Terms	[12]	5.3%	5.3%	5.3%	Based on STB 2020 Cost of Capital net of inflation.
Implied Value (Millions of 2019 \$)	[13]	\$1,137	\$1,395	\$2,102	[11]/[12]; assumes no growth beyond inflation.
Inflation Rate	[14]	2.5%	2.5%	2.5%	10-Year Breakeven Inflation Rate on 12/22/2021. https://fred.stlouisfed.org/series/T10YIE
Implied Value (Millions of 2026 \$)	[15]	\$1,365	\$1,675	\$2,524	[13]x(1+0.025)^7.5.

Minor differences due to rounding.

Opportunity Cost Caveats

Scenarios modeled are intended to approximate the loss to NS, but the losses may materialize in ways different from the specific assumptions modeled.

Results are highly sensitive to key factors:

- Competitive alternatives to NS for shippers. This in turn affects:
 - the ability for NS to pass on higher costs to shippers
 - negotiating position between NS and new owner/operator of CSR
- Ability to retain traffic due to longer transit times
- NS willingness or ability to shed low margin traffic
- Discount rate
- Capacity constraints on alternative routes that may require significant capex or opex for NS to alleviate, which we have not modelled

Significant, often confidential, NS data and analysis would be required to test the reasonableness of these scenarios

2009 NS Offer Provides Insight into Value

On 12/7/09, NS offered to buy CSR for \$500m

Value to NS is avoided lease payments to 2026 plus ownership thereafter

$$\begin{array}{ccccc} \boxed{\$500\text{m}} & = & \boxed{\text{PV of Lease Payments to 2026}} & \textit{plus} & \boxed{\text{Implied PV of Line at EOY 2026}} \end{array}$$

Formula can be rearranged to back out the implied 2026 value of the line from this offer:

$$\begin{array}{ccccc} \boxed{\$500\text{m}} & \textit{minus} & \boxed{\text{PV of Lease Payments to 2026}} & = & \boxed{\text{Implied PV of Line at EOY 2026}} \\ \textit{Known} & & \textit{Easy to Estimate} & & \end{array}$$

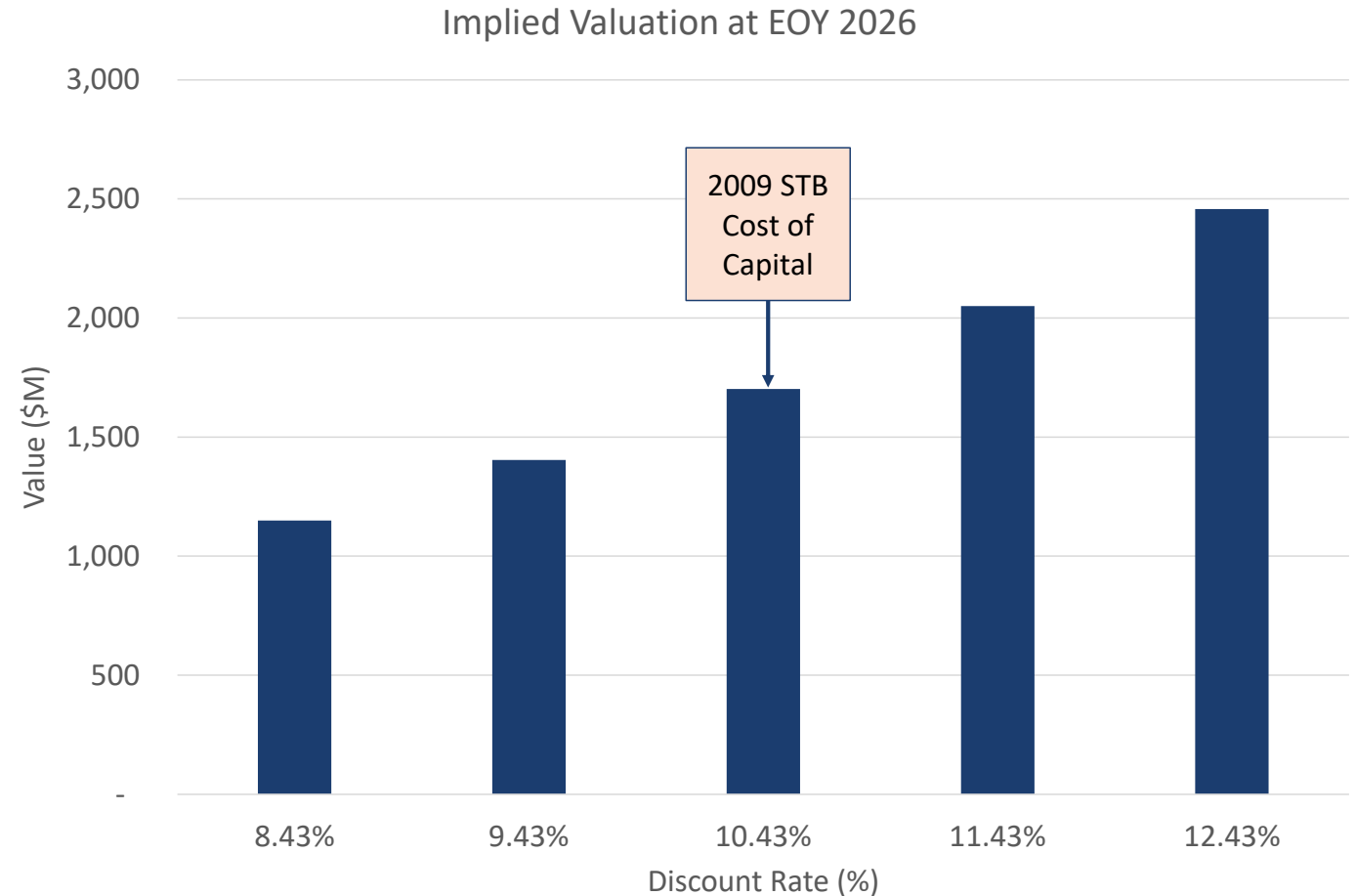
Calculation Using 2009 STB Cost of Capital as Discount Rate

- Column [1] is the forecast of lease payments through 2026
- PV of these lease payments was \$185m, as calculated in [3] with 10.43% discount rate
 - Discount rate = 2009 STB Cost of Capital
- PV of lease payments implies EOY 2026 purchase price would have a value of \$315m (\$500m - \$185m)
- We solve for the EOY 2026 purchase price that has a PV @ 10.43% of \$315m at EOY 2009 – result is \$1.70 billion

	Undiscounted Payment [1]	Years of Discounting [2]	PV of Cash Flows @ 10.43% [3]
2010 Lease Payment	\$19,921,767	0.5	\$18,957,642
2011 Lease Payment	\$20,338,132	1.5	\$17,525,905
2012 Lease Payment	\$20,763,199	2.5	\$16,202,297
2013 Lease Payment	\$21,197,150	3.5	\$14,978,652
2014 Lease Payment	\$21,640,170	4.5	\$13,847,419
2015 Lease Payment	\$22,092,450	5.5	\$12,801,621
2016 Lease Payment	\$22,554,182	6.5	\$11,834,805
2017 Lease Payment	\$23,025,564	7.5	\$10,941,006
2018 Lease Payment	\$23,506,799	8.5	\$10,114,709
2019 Lease Payment	\$23,998,091	9.5	\$9,350,816
2020 Lease Payment	\$24,499,651	10.5	\$8,644,615
2021 Lease Payment	\$25,011,694	11.5	\$7,991,748
2022 Lease Payment	\$25,534,438	12.5	\$7,388,187
2023 Lease Payment	\$26,068,108	13.5	\$6,830,210
2024 Lease Payment	\$26,612,931	14.5	\$6,314,372
2025 Lease Payment	\$27,169,141	15.5	\$5,837,492
2026 Lease Payment	\$27,736,977	16.5	\$5,396,627
Purchase Price 12/31/2026	\$1,701,564,883	17.0	\$315,041,878
Total			\$500,000,000

Implied Value in 2026 Depends Heavily on Discount Rate

- Purchase price implied depends significantly on discount rate
- Figure presents sensitivity of +/- 1% and 2% around STB cost of capital
- Range of values from sensitivity:
 - 8.43% → \$1.15 billion
 - 12.43% → \$2.46 billion



Caveats on Value Implied by 2009 NS Offer

Results are very sensitive to discount rate that NS would have used to perform this calculation, but we do not know that rate

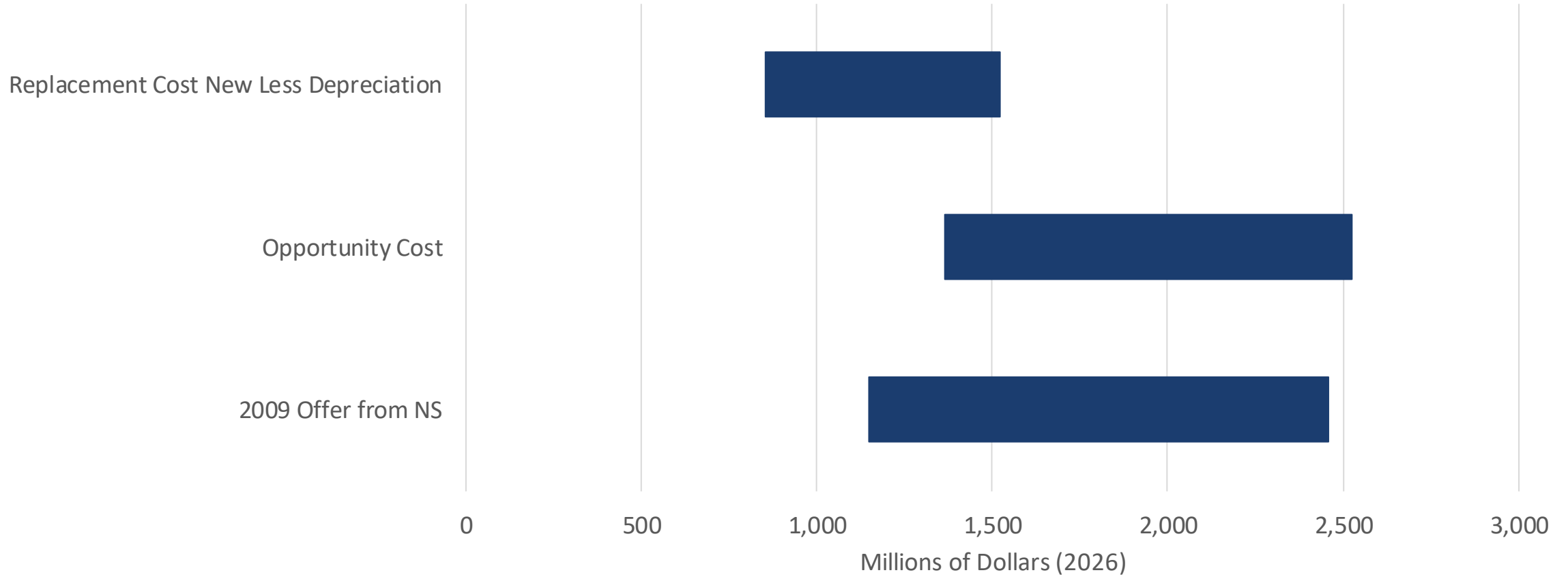
Methodology assumes that key drivers of value that existed in December 2009 would be largely unchanged as of today:

- Baseline traffic on line
- Growth expectations for line

Expectations about these factors may have changed; determining this will require further analysis and may benefit from document requests

Preliminary Results of Methods

PRELIMINARY Value of Cincinnati Southern Railway



NEXT STEPS

