

# SURFACE TRANSPORTATION BOARD REPORTS

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STB EX PARTE NO. 558 (SUB-NO. 6)

RAILROAD COST OF CAPITAL – 2002

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*Decided June 11, 2003*

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Upon review of the evidence tendered in this proceeding, the Board finds that in 2002, the railroad industry had a composite after-tax cost of capital of 9.8%, based on: (1) a current cost of debt of 6.0%; (2) a current cost of common equity capital of 12.6%; (3) a cost of preferred equity capital of 6.3%; and (4) a capital structure mix of 41.2% debt, 56.7% common equity, and 2.1% preferred equity capital.

## BY THE BOARD:

One of the Surface Transportation Board's regulatory responsibilities is the annual determination of the railroad industry's cost of capital. This determination is one component used in evaluating the adequacy of railroad revenues each year under the procedures and standards mandated by Congress in the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act) and promulgated in *Standards for Railroad Revenue Adequacy*, 364 I.C.C. 803 (1981), revised, 3 I.C.C.2d 261 (1986). This finding may also be used in other regulatory proceedings, including, but not necessarily limited to, those involving the prescription of maximum reasonable rate levels, the proposed abandonment of rail lines, and the setting of compensation for disputed trackage rights fees.

The most recent determination of the railroad industry's cost of capital was for the year 2001 in *Railroad Cost of Capital–2001*, 6 S.T.B. 246 (2002) (*Cost 01*). The instant proceeding, instituted in *Railroad Cost of Capital – 2002*, STB Ex Parte No. 558 (Sub-No. 6) (STB served December 12, 2002), updates the railroad industry's cost of capital for the year 2002.

The only party to provide evidence in this proceeding was the Association of American Railroads (AAR). The AAR concluded that the composite after-tax cost of capital for the railroad industry for 2002 was 9.76%, significantly lower than the 2001 cost of capital rate of 10.2%.

Consistent with previous cost of capital proceedings, the AAR determined the overall railroad industry cost of capital rate using a "composite railroad" consisting of Class I carriers controlled by selected major railroad holding companies. The AAR's selection of these companies was based on criteria

developed in *Railroad Cost of Capital — 1984*, 1 I.C.C.2d 989 (1985).<sup>1</sup> The following companies that met these criteria are included: Burlington Northern Santa Fe Corporation (BNSF), CSX Corporation (CSX), Norfolk Southern Corporation (NSC), and the Union Pacific Corporation (UPC).<sup>2</sup>

As discussed below, we have examined the procedures used by the AAR to determine the following for 2002: (1) the railroad industry's current cost of debt capital; (2) its cost of common equity capital; (3) its cost of preferred equity capital; (4) its capital structure mix; and (5) the composite after-tax railroad industry cost of capital. We have determined that the 2002 railroad cost of capital is 9.8%.

### DEBT CAPITAL

The AAR developed its 2002 current cost of debt using bond price data from Standard & Poor's Corporation *Bond Guide* and a Standard and Poor's data base. The AAR's cost of debt is based on the market value yields of the major forms of long-term debt instruments for the sample railroad holding companies listed above. These debt instruments include: (1) bonds, notes, and debentures (bonds); (2) equipment trust certificates (ETCs); and (3) conditional sales agreements (CSAs). The yields of these debt instruments are weighted based on their market values.

#### *Cost of Bonds, Notes, and Debentures (Bonds)*

The AAR used data contained in Standard & Poor's *Bond Guide* for the current cost of bonds, based on monthly prices and yields during 2002, for all issues (a total of 61) that were publicly traded during the year. To determine the current (2002) market value of bonds, the AAR used these traded bonds and 65 additional bonds that were outstanding but not traded during 2002.<sup>3</sup> Continuing the procedure in effect since 1988, the AAR based the market value on monthly prices for all traded bonds and the face or par value (\$1,000) for all bonds not traded during the year. The AAR computed the total market value of all outstanding bonds to be \$16.618 billion. Based on the yields for the traded bonds, the AAR calculated the weighted average 2002 yield for all bonds to be 5.89%.

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<sup>1</sup> These criteria are as follows: (1) the company is listed on either the New York or American Stock Exchange; (2) the company paid dividends throughout the year; (3) the company's rail assets are greater than 50% of its total assets; and (4) the company has a debt rating of at least BBB (Standard & Poor's) and Baa (Moody's).

<sup>2</sup> These are the same companies included by the AAR and used in our 2001 cost of capital decision, *Cost 01*.

<sup>3</sup> This includes three NSC bonds which were only traded for part of the year. These are included both as traded and untraded (with prorations by month, depending on whether they were or were not traded). Thus, 123 bonds were actually considered.

We have examined the AAR's bond price and yield data and have made several minor modifications to the data submitted.<sup>4</sup> We have recalculated the market value of all outstanding bonds to be \$16.639 billion. We have determined that the weighted average 2002 yield for all bonds continues to be 5.89%. Our recalculations and data for all bonds are shown in Tables 1 and 2 of the Appendix.

#### *Cost of Equipment Trust Certificates (ETCs)*

ETCs are not actively traded on secondary markets. Therefore, their costs must be estimated by comparing them to the yields of other debt securities that are actively traded. Following the practice in previous cost of capital proceedings, the AAR used government securities with maturities similar to these ETCs as surrogates for determining yields. After determining the 2002 yields for these government securities, the AAR added basis points<sup>5</sup> to these yields to compensate for the additional risks associated with the ETCs.

No new ETC's were issued during 2002. There were 44 ETCs issued prior to 2002 that were outstanding during the year. The AAR determined that the yield spread for ETCs was 114 basis points higher than the yield for government bonds.<sup>6</sup> Using the yield spreads, the AAR calculated the weighted average cost of ETCs to be 5.38%<sup>7</sup> and their market value to be \$1.566 billion for 2002.<sup>8</sup>

We have analyzed the ETC cost and market value evidence supplied by the AAR and find them to be correct. A summary of our ETC computations is shown in Table 3 in the Appendix.

#### *Cost of Conditional Sales Agreements (CSAs)*

CSAs represent a small fraction (less than 1%) of total railroad debt. The cost of CSAs, however, can be estimated. The AAR used the yield spread between CSAs and ETCs for 1997 (the last year when a new CSA was issued) of 32 basis points to develop the year 2002 yield spread between CSAs and government bonds. This results in 146 basis points being added to government bond yields to develop the cost of CSAs.<sup>9</sup> Using this yield spread, and adding the 146 basis points for government bonds, the AAR determined the weighted average cost of CSAs for 2002 to be 5.62%. The AAR determined the market

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<sup>4</sup> These corrections are detailed in footnotes to Tables 1 and 2 in the Appendix.

<sup>5</sup> A basis point equals 1/100th of a percentage point.

<sup>6</sup> This figure is same as the spread used in 2001.

<sup>7</sup> This is substantially lower than the 2001 figure of 5.96%.

<sup>8</sup> The AAR has approximated the market values of ETCs using the same procedures used in previous cost of capital determinations. These procedures are based on the use of standard security industry formulas found in *Standard Security Calculation Methods*.

<sup>9</sup> This yield spread equals the yield spread for ETCs vs. government bonds of 114 basis points plus the yield spread between ETCs and CSAs of 32 basis points. These are the same numbers as used in the 2001 determination.

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value for CSAs to be \$0.157 billion.<sup>10</sup> We have examined the cost and market value of the CSAs using the AAR's data, and have determined that the AAR computed the interest rate and market value of CSA's correctly. The results of these computations are shown in Table 4 in the Appendix.

#### *Miscellaneous Debt and Capitalized Leases*

As in previous cost of capital determinations, the AAR excluded the costs of capitalized leases and miscellaneous debt in its computation of the overall current cost of debt because these costs are not directly observable in the open market. Also in keeping with past practice, the AAR included the book value of leases and commercial paper in the overall market value of debt, which is used to determine the railroads' capital structure mix. The AAR noted that the cost of capitalized leases is generally higher than that of other debt, but it did not make any upward correction for the cost of those leases. The AAR determined that the market value for the capitalized leases and miscellaneous debt was \$3.925 billion for 2002.<sup>11</sup> We have examined the AAR's work papers and other evidence and have adjusted this figure to \$4.165 billion.<sup>12</sup> Table 5 in the Appendix shows our recalculations for capitalized leases and miscellaneous debt.

#### *Total Market Value of Debt*

The AAR determined that the total market value for all debt during 2002 was \$29.324 billion. Due to our adjustments discussed previously, we have recomputed the total market value for all railroad debt in 2002 to be \$29.732 billion.<sup>13</sup>

#### *Flotation Costs of Debt*

As in past cost of capital decisions, the AAR's calculation of the current cost of debt included a flotation cost factor consisting of costs associated with the issuance of new debt such as underwriters' fees, advertising costs, and legal fees. The AAR determined that flotation costs for debt equaled 0.16%. We have reviewed the AAR's calculations concerning flotation costs and find that the cost factors developed for the various components of debt are reasonable.<sup>14</sup>

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<sup>10</sup> The AAR approximated the market values of CSAs using the same procedures used in previous cost of capital determinations. These procedures are based on the use of standard security industry formulas found in *Standard Security Calculation Methods*.

<sup>11</sup> This consists of \$2.245 billion capitalized leases and \$1.680 billion miscellaneous debt.

<sup>12</sup> Our adjustment is based on a recalculation of capitalized leases for NSC. These leases were inadvertently omitted from the AAR's totals. Our calculations use \$2.485 billion for capitalized leases.

<sup>13</sup> See Table 6 in the Appendix for a complete breakdown of the market value of debt.

<sup>14</sup> See Table 7 in the Appendix for these calculations. The AAR's flotation cost factors are based on data developed by Salomon Brothers for ETCs and studies by the Securities and Exchange

Commission concerning flotation costs for issuances of new bonds. The estimated flotation cost for  
(continued...)

*Overall Current Cost of Debt*

The AAR concluded that the railroads' current cost of debt for 2002 was 6.0%. Our calculations produce a slightly higher figure (6.02%), rounded to 6.0%.<sup>15</sup> Our calculations are shown in Table 8 in the Appendix.

## COMMON EQUITY CAPITAL

In previous cost of capital decisions, we have determined the cost of common equity using the Discounted Cash Flow (DCF) method. The AAR submitted evidence as to the current cost of equity capital using this procedure. This evidence is virtually identical to that furnished by the AAR in previous cost of capital proceedings.

*Market Value of Common Equity*

The AAR calculated the 2002 market value of common equity by multiplying the number of shares outstanding by the daily closing price for each trading day during the year for each of the sample railroad holding companies. The AAR determined that the average market value for the year 2001 was \$40.836 billion. We have reviewed the AAR's calculations and have determined that this number is correct. Table 9 in the Appendix shows the calculations of the average market value of common equity and relative weights for each railroad.

*Discounted Cash Flow (DCF) Method*

The DCF method of determining the cost of common equity is used by the majority of state regulatory agencies and has been used by the Interstate Commerce Commission (ICC) and the Board for many years. Under the DCF method, the cost of common equity is the discount rate that makes the present value of expected returns from holding a stock (dividends and price appreciation) equal to the current market value of that stock. The DCF method considers two variables — dividend yield and expected growth in earnings per share.<sup>16</sup>

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<sup>14</sup>(...continued)

CSAs is the same as that used in prior proceedings.

<sup>15</sup> This is significantly lower than the 2001 cost of debt (6.88%).

<sup>16</sup> In *Railroad Cost of Capital - 1982*, 367 I.C.C. 662 (1983), the ICC developed the following DCF formula:

$$K = [D_{(o)} \times (1 + g/2)/P_{(o)}] + g, \text{ where:}$$

K = cost of common equity

$D_{(o)}$  = annual dividend

$P_{(o)}$  = current stock price

g = expected growth rate

This formula assumes that, at the start of the year, an investor would require a return on equity (K) equal to  $[D_{(o)}/P_{(o)}] + g$ , where  $D_{(o)}/P_{(o)}$  represents the average dividend yield expected for the year

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### *Dividend Yield*

The AAR computed the 2002 average dividend yield for the composite group of railroads using the same method that it employed in past cost of capital determinations, *i.e.*, weighting each company's monthly dividend yield on the basis of its prorated share of the total market value for the composite for each day during that month based on daily closing prices. The AAR developed a composite dividend yield of 1.40% for 2002. We have reviewed the AAR's calculations and have determined that this number is correct. This figure is lower than the 2001 dividend yield (1.66%). Our calculations of the dividend yield are shown in Table 10 in the Appendix.

### *Growth Rate*

The AAR used the earnings per share growth rate forecasts published monthly by the Institutional Brokers Estimate System (IBES) throughout 2002<sup>17</sup>. The AAR developed growth rates for each of the railroad holding companies that make up the composite by averaging the IBES forecasts for that company. It then weighted each company's growth rate according to its prorated share of the market value of the total railroad composite to arrive at a single projected growth rate. The AAR concluded that this composite growth rate was 11.12%, based on a truncated average of the forecasts.<sup>18</sup> After making some minor adjustments to the AAR's data, we have determined the truncated composite growth rate to be 11.13%. This is .13 of a percentage point higher than the 11.0% growth rate developed in the 2001 cost of capital decision. Our growth rate calculations are shown in Tables 11 (truncated) and 12 (nontruncated) of the Appendix.

### *Flotation Costs*

As with the issuance of new debt instruments, flotation costs are also incurred with the issuance of new equity securities. In *Adequacy of Railroad Revenue (1979 Determination)*, 363 I.C.C. 344, 352 (1979), the ICC concluded that flotation costs for equity capital should not be considered unless new equity had, in fact, been issued. This conclusion has been reaffirmed in subsequent cost

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<sup>16</sup>(...continued)

and  $g$  represents an estimate of the expected growth rate. At the end of the year, the investor would be concerned with projected returns for the following year and would require a  $K$  equal to  $[D_{(0)} \times (1+g)/P_{(0)}] + g$ , which would allow for dividend growth for the following year. The average of these two formulas produces this DCF formula.

<sup>17</sup> As has been the case since the findings in *Railroad Cost of Capital - 1987*, 4 I.C.C.2d 621 (1988), we have relied on the use of consensus analyst 5-year earnings per-share growth rate data published by IBES to develop the growth rate estimates used in the DCF approach. IBES data include growth rate estimates from essentially all major brokerage firms.

<sup>18</sup> IBES provides a simple average, the highest forecast, and the lowest forecast for each railroad. The AAR excluded the highest and lowest forecasts to arrive at the truncated average. This is the same procedure that has been followed in previous cost of capital determinations.

of capital decisions. Because no railroad issued any new common equity capital during 2001, no flotation cost factor has been included in the DCF formula.

#### *Conclusion - Cost of Common Equity Capital*

Using a truncated average IBES growth rate (g) forecast of 11.12%, a dividend yield ( $D_{(o)}/P_{(o)}$ ) of 1.4%, and the Board's DCF formula, the AAR determined the cost of common equity for 2002 to be 12.6%. Even with our slight adjustments to the AAR's data, our computation of the cost of common equity, when rounded, also equals 12.6%. This figure is 0.2 percentage points lower than the cost of common equity for 2001 (12.8%).<sup>19</sup>

#### PREFERRED EQUITY

Preferred equity has some of the characteristics of debt and some of the characteristics of equity. Essentially, preferred issues are like common stocks in that they have no maturity dates and represent ownership in the company (usually with no voting rights attached). They are like debt in that they usually have fixed dividend payments (akin to interest payments).

The AAR examined the two preferred stock issues of the sample railroad holding companies,<sup>20</sup> and determined their cost using the dividend yield method (dividends divided by market price). The AAR computed the market value of preferred stock by multiplying the average quarterly price for each issue by the number of shares outstanding during the quarter. This is the same procedure used in previous cost-of-capital determinations. The AAR computed the market value of preferred equity during 2002 to be \$1.534 billion. This is virtually identical to the figure for 2001 (\$1.533 billion). The AAR computed the cost of preferred equity to be 6.26%, the same as the figure for 2001.

We have determined that the AAR's computations are correct.<sup>21</sup> Table 14 in the Appendix contains the calculations of the cost of preferred equity, rounded to 6.3%.

#### CAPITAL STRUCTURE MIX

Our computations of market values and the capital structure mix for 2002 are shown in Table 15 in the Appendix. We have determined that the market value of bonds, preferred stock, and common equity for 2002 was \$72.103 billion. The percentage share of common equity increased slightly from 56.0% in 2001 to 56.7% in 2002. The percentage share of debt accordingly decreased from 41.8% in 2001 to 41.2% in 2002. The percentage share of preferred equity decreased slightly from 2.2% in 2001 to 2.1% in 2002.

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<sup>19</sup> See Table 13 in the Appendix for our calculation of the cost of common equity.

<sup>20</sup> The two railroad holding companies with preferred stock are NSC and UPC.

<sup>21</sup> The AAR has a slightly different value for NSC preferred stock, but this difference is insignificant.

### COMPOSITE COST OF CAPITAL

Based on the evidence furnished in the record, and our adjustments to that evidence discussed above, we conclude that the 2002 composite after-tax cost of capital for the railroad industry, as set forth in Table 16 in the Appendix, was 9.8%. The procedure used to develop the composite cost of capital is consistent with the Statement of Principle established by the Railroad Accounting Principles Board: "Cost of capital shall be a weighted average computed using proportions of debt and equity as determined by their market values and current market rates."<sup>22</sup> The 2002 cost of capital is 0.4 percentage point lower than the 2001 cost of capital (10.2%).

### CONCLUSIONS

*We find that for 2002:*

1. The current cost of railroad long-term debt equals 6.0%.
2. The cost of common equity equals 12.6%.
3. The cost of preferred equity equals 6.3%.
4. The capital structure mix of the railroads equals 41.2% long-term debt, 56.7% common equity, and 2.1% preferred equity.
5. The composite railroad industry cost of capital equals 9.8%.

### Environmental and Energy Considerations

We conclude that this action will not significantly affect either the quality of the human environment or the conservation of energy resources.

### Regulatory Flexibility Analysis

Pursuant to 5 U.S.C. 605(b), we conclude that our action in this proceeding will not have a significant economic impact on a substantial number of small entities. The purpose and effect of the action are merely to update the annual railroad industry cost of capital finding. No new reporting or other regulatory requirements are imposed, directly or indirectly, on small entities.

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<sup>22</sup> Railroad Accounting Principles Board *Final Report*, Vol. 1, (1987).



*It is ordered:*

1. This decision is effective on June 11, 2003.
2. This proceeding is discontinued.

By the Board, Chairman Nober.

## APPENDIX

Table 1  
2002 Traded & Untraded Bonds / Market Value By Company

Railroad	Traded vs Untraded	Number	Market Value (\$ in 000)	% Market Value to All Bonds
BNSF	Traded	24	\$4,469,614	83.60%
	Untraded <sup>1</sup>	12	877,086	16.40%
	Total	36	5,346,700	
CSX	Traded	5	\$1,379,555	25.55%
	Untraded <sup>2</sup>	23	4,019,001	74.45%
	Total	28	5,398,556	
NSC	Traded <sup>3</sup>	16	\$6,496,232	92.02%
	Untraded <sup>4</sup>	7	563,435	7.98%
	Total	23	7,059,667	
UPC	Traded <sup>5</sup>	16	\$4,293,698	71.10%
	Untraded <sup>6</sup>	23	1,745,104	28.90%
	Total	39	6,038,802	
COMPOSITE	Traded	61	\$16,639,099	69.78%
	Untraded	65	7,204,626	30.22%
	Total	126	23,843,725	

<sup>1</sup> Includes 1 bond issued during 2002, prorated based on date of issue. Excludes 1 bond maturing 1/1/03 (\$28.81 million) which was included by AAR. (We are considering it to be short-term debt.)

<sup>2</sup> Excludes 2 bonds maturing 4/1/03 (\$54.83 million) which were included by AAR. (We are considering them to be short-term debt.)

<sup>3</sup> Includes 1 bond with market price adjusted to \$355.65 million. (AAR mispriced bond at \$335.7 million.)

<sup>4</sup> Includes 2 bonds issued during 2002, prorated based on date of issue.

<sup>5</sup> Includes 2 bonds issued during 2002 and 1 issued prior to 2002 that only traded the last 4 months of 2002. Prorated accordingly.

<sup>6</sup> Represents the prorated untraded months for the 3 bonds mentioned in note 5.

Table 2  
Calculation of 2002 Value and Cost of Bonds, Notes, & Debentures

Railroad	Number of Traded Issues	Market Value Traded Issues (\$000)	Current Cost	Weighted Cost
BNSF	24	\$4,469,614	6.11%	1.64%
CSX	5	1,379,555	5.91%	0.49%
NSC	16	6,496,232	5.98%	2.34%
UPC	16	4,293,698	5.52%	1.42%
Composite	61	\$16,639,099		5.89%

Table 3  
Calculation of 2002 Value and Cost of Equipment Trust Certificates  
(Note: All Issued Prior to 2002)

Railroad	No. of Issues	Market Value (\$000)	Yield %	Weighted \$ Yield (\$000)
BNSF	13	\$431,510	5.49%	\$23,686
CSX	14	\$608,004	5.25%	\$31,920
NSC	12	\$338,868	5.44%	\$18,434
UPC	5	\$187,827	5.39%	\$10,124
Composite	44	\$1,566,209	5.38%	\$84,164

Table 4  
Calculation of 2002 Value and Cost of Conditional Sales Agreements

Railroad	Number of Issues	Market Value (\$000)	Current Cost	Weighted Cost
CSX	3	\$124,985	5.96%	4.73%
UPC	4	32,287	4.32%	0.89%
Composite	7	\$157,272		5.62%

Table 5  
Calculation of 2002 Value of Capitalized Leases & Miscellaneous Debt

Railroad	Capitalized Leases (\$000)	Miscellaneous Debt (\$000)	Total Other Debt (\$000)
BNSF	\$659,019	\$612,566	\$1,271,585
CSX	137,490	537,722	675,212
NSC <sup>1</sup>	239,037	267,417	506,454
UPC	1,449,000	262,672	1,711,672
Composite	\$2,484,546	\$1,680,377	\$4,164,923

<sup>1</sup> The AAR's workpapers show capitalized leases for NSC which were not counted by them. We have included these in the above table.

Table 6  
Calculation of 2002 Market Value of Debt

Type of Debt	Market Value of Debt (\$000)	Percentage of Total Market Value (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	\$23,843,725	93.26%
ETCs	1,566,209	6.13%
CSAs	157,272	0.61%
Subtotal	25,567,206	100.00%
Capitalized Leases/Miscellaneous Debt	4,164,923	NA
Total Market Value of Debt	\$29,732,129	NA

Table 7  
Calculation of 2002 Flotation Cost For Debt

Type of Debt	Market Weight (Excludes Miscellaneous Debt)	Flotation Cost	Weighted Average Flotation Cost
Bonds, Notes, & Debentures	93.26%	0.16	0.149%
ETCs	6.13%	0.13	0.008%
CSAs	0.61%	0.13	0.001%
Total	100.00%		0.158%

Table 8  
Calculation of 2002 Cost of Debt

Type of Debt	Percentage of Total Market Value (Excludes Miscellaneous Debt)	Debt Cost	Weighted Debt Cost (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	93.26%	5.89%	5.49%
ETCs	6.13%	5.38%	0.33%
CSAs	0.61%	5.62%	0.03%
Subtotal	100.00%	-	5.86%
Flotation Cost			.16%
Weighted Average Cost of Debt			6.02%
		Rounded to	6.0%

Table 9  
Calculation of 2002 Market Value and Weights of Common Equity

Railroad	Average Market Value (\$000)	Average Market Weight
BNSF	\$10,509,798	25.74%
CSX	7,077,397	17.33%
NSC	8,236,132	20.17%
UPC	15,012,842	36.76%
COMPOSITE	\$40,836,169	100.00%

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Table 10  
Calculation of 2002 Dividend Yields for Common Equity

Railroad	Average Weight In Composite	Dividend Yield	Weighted Dividend Yield
BNSF	25.7%	1.75%	0.45%
CSX	17.3%	1.22%	0.21%
NSC	20.2%	1.20%	0.24%
UPC	36.8%	1.36%	0.50%
COMPOSITE	100.00%		1.40%

Table 11  
Calculation of 2002 Truncated Growth Rates

Railroad	Average Weight In Composite	Truncated Average Growth Rate	Contribution To Truncated Average Growth Rate
BNSF	25.7%	9.12%	2.35%
CSX	17.3%	11.37%	1.97%
NSC	20.2%	11.79%	2.38%
UPC	36.8%	12.05%	4.43%
COMPOSITE	100.00%		11.13%

Table 12  
Calculation of 2002 Nontruncated Growth Rates

Railroad	Average Weight In Composite	Nontruncated Average Growth Rate	Contribution To Nontruncated Average
BNSF	25.7%	8.86%	2.28%
CSX	17.3%	14.26%	2.47%
NSC	20.2%	14.09%	2.84%
UPC	36.8%	11.84%	4.35%
COMPOSITE	100.00%		11.95%

Table 13  
Computation of the 2002 Cost of Common Equity

Dividend Yield	1.4%	
Dividend Yield Times 1+½ Growth Rate	1.4%*(1+.056)	1.48%
Growth Rate		11.13%
Cost of Equity		12.61%
Rounded to		12.60%

Table 14  
Computation of 2002 Cost & Market Value of Preferred Stock

Railroad	Div \$	Value Per Share	Div. Yield	Shares (000)	Market Value (\$000)	Market Weight	Weighted Yield
NSC	\$2.600	\$40.38	6.44%	850.6	34,345	2.2%	0.14%
UPC	3.125	\$50.00	6.25%	29,999.9	1,499,995	97.8%	6.11%
COMPOSITE					\$1,534,340	100.0%	6.25%
						Rounded to	6.3%

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Table 15  
Computation of 2002 Capital Structure Mix

Type of Capital	Market Value (\$000)	Weight
Debt	\$29,732,129	41.2%
Preferred Equity	1,534,340	2.1%
Common Equity	40,836,169	56.7%
<b>TOTAL</b>	<b>\$72,102,638</b>	<b>100.0%</b>

Table 16  
2002 Cost of Capital Computation

Type of Capital	Cost (Rounded)	Weight	Weighted Average
Long-Term Debt	6.0%	41.2%	2.47%
Preferred Equity	6.3%	2.1%	0.13%
Common Equity	12.6%	56.7%	7.14%
<b>COMPOSITE COST OF CAPITAL</b>		<b>100.0%</b>	<b>9.75%</b>
		<b>ROUNDED TO</b>	<b>9.8%</b>