

## **I. INTRODUCTION**

We are Thomas D. Crowley and Daniel L. Fapp. We are economists and, respectively, the President and a Vice President of L. E. Peabody & Associates, Inc., an economic consulting firm that specializes in solving economic, transportation, marketing, and fuel supply problems. Mr. Crowley has spent most of his consulting career of over thirty-six (36) years evaluating fuel supply issues and railroad operations, including railroad costs, prices, financing, capacity and equipment planning issues. His assignments in these matters were commissioned by railroads, producers, and shippers of different commodities. A copy of his credentials is included as Exhibit No. 1 to this verified statement.

Mr. Fapp has been with L. E. Peabody & Associates, Inc. since 1997. During this time, he has worked on numerous projects dealing with railroad operational and financial issues. Prior to joining L. E. Peabody & Associates, Inc., Mr. Fapp was employed by BHP Copper Inc. in the role of Transportation Manager - Finance and Administration, and where he also served as an officer of the three BHP Copper Inc. subsidiary railroads, The San Manuel Arizona Railroad, the BHP Arizona (formerly Magma Arizona) Railroad and the BHP Nevada Railroad. A copy of his credentials is included as Exhibit No. 2 to this verified statement.

Our consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations. In these assignments, we have calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity. We are also well acquainted with and have used the commonly accepted models for determining a firm's cost of equity, including the Discounted Cash Flow Model

("DCF"), Capital Asset Pricing Model ("CAPM"), Fama-French Three Factor Model and Arbitrage Pricing Model.

We have developed railroad industry average cost of capital and company specific cost of capital for use in litigation and for use in general business management. For several clients, we have both individually and together determined the Going Concern Value ("GCV") of privately held railroads. Developing the GCV under the Income Based Methodology requires developing company specific costs of debt and equity for use in discounting future company cash flows. We have also developed cost of capital in order to capture the costs associated with shipper investment in railroad equipment and road property. Our findings regarding railroad cost of capital have been presented to U.S. District and State courts, the Interstate Commerce Commission, the Surface Transportation Board ("STB") and the Federal Railroad Administration.

We have been asked by Counsel for the Western Coal Traffic League ("WCTL") to calculate the railroad industry cost of equity ("COE") for the years 2003 to 2006 using the widely accepted Capital Asset Pricing Model ("CAPM") approach and to calculate the railroad industry cost of capital ("COC") based upon our COE calculations. In addition, we have been asked to develop the railroad industry COC assuming different railroad industry capital structures than the capital structures determined by the STB in its 2003, 2004 and 2005 Ex Parte No. 558 decisions and estimated by the American Association of Railroads ("AAR") in its Opening Evidence in this proceeding. Finally, WCTL Counsel has asked us to compare the railroads' use of cash distributed to railroad debt and equity holders to the cash used to fund capital expenditures.

Our testimony is summarized further below under the following topical headings:

- II. Railroad Industry Cost Of Equity Using the CAPM
- III. Railroad Industry Cost of Capital
- IV. Impact of Capital Structure on Railroad Industry Cost of Capital
- V. Railroad's Use of Cash

## **II. THE RAILROAD INDUSTRY COST OF EQUITY USING THE CAPM**

We have calculated the railroad industry COC under the CAPM approach in lieu of the single-step DCF approach previously used by the STB. The CAPM is part of a larger economic theory known as Capital Market Theory, which seeks to model pricing for assets based upon their relative risk. Investors will expect higher returns for higher risk. The Capital Market Theory represents a significant body of work over the past 50 years, and CAPM is a conceptual cornerstone of modern Capital Market Theory.

The CAPM calculates a firm's COE by comparing the company's risk profile to that of the market as a whole. Mathematically, the CAPM can be expressed using the following equation:

$$\mathbf{k = r_f + \beta(rp_m) + rp_s}$$

Where:

- k = COE;
- r<sub>f</sub> = Rate of return available on a risk-free security;
- β = The measure of systematic risk of a stock, relative to the market as a whole;
- rp<sub>m</sub> = The general equity risk premium for the market; and
- rp<sub>s</sub> = The market risk premium related to company size.

The CAPM assumes that investors will be compensated for three factors: 1) for investing their money, which is approximated by the risk free return; 2) for unsystematic risk of default, which

cannot be eliminated through a diversified portfolio and is approximated by the market risk premium; and 3) for systematic risk, which depends upon the company's fortunes, as approximated by a company's Beta ( $\beta$ ). Each factor is described in more detail below.

The risk-free rate ( $r_f$ ) refers to a rate of return that is available in the market on an investment that is free of default risk. Normally, since the true risk-free rate is unknown, the yield to maturity on a long-term government security is used as a proxy. This represents a riskless asset because the government can raise taxes to cover the debt it incurs, thereby negating its risk of default.

The additional return investors expect to receive to compensate for the additional risk associated with investing in equities as opposed to the risk free assets is represented by the equity risk premium. The equity risk premium can be calculated at any time by comparing the rates of return on the market as whole to the rates of returns offered by long-term government securities. However, over a short-time period, the equity risk premium can greatly fluctuate due to "noise" intrinsic to the market as a whole. To avoid this problem of noisy data, long-term averages of the historic equity risk premium are used.

Ibbotson Associates ("Ibbotson"), a leading financial consulting firm, publishes a widely used estimate of the market risk premium.<sup>1</sup> Ibbotson calculates its historic average by comparing the arithmetic average total return of the S&P 500 Index to the arithmetic average return of Treasury

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<sup>1</sup>Morningstar, Inc., a leading provider of independent investment research in the United States and in major international markets, acquired Ibbotson in March, 2006. Since a majority of the data we use in our analyses was produced under the Ibbotson moniker, we continue to refer to more recent data as Ibbotson data.

securities. The Ibbotson calculation of the equity risk premium is widely considered the best estimate of the equity risk premium available.<sup>2</sup>

Systematic risk is represented by the Beta ( $\beta$ ). Mathematically, Beta is equal to the covariance between a company's stock and the market as a whole divided by the variance of the market as whole ( $\beta = \sigma_{(\text{stock,market})} \div \sigma_{(\text{market})}$ ). The degree of risk represented by the size of the Beta represents three decisions the firm makes. The first decision relates to the type of business of the company. For example, the more discretionary a company's products or services are, the higher the Beta and hence risk. Second is the cost structure of the firm as measured by the company's operating leverage, and third the financial leverage that the firm takes on. The higher the financial leverage, the higher the Beta. With access to historical company stock data, Beta can be calculated through the use of standard ordinary least square regression models. However, Beta information is readily available from reputable third-party sources, including Ibbotson. Ibbotson prepares two primary types of Beta estimates for large, publicly traded companies, levered and unlevered Betas. An unlevered Beta assumes that a firm's capital structure consists entirely of equity, and that the firm

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<sup>2</sup>See *Cost of Capital: Estimations and Applications*, S. P. Pratt, Second Edition, 2002, p. 113.

holds no debt. A levered Beta takes into consideration the incremental risk associated with a company's debt.<sup>3</sup>

Finally, in addition to calculating the basic CAPM, financial theorists have determined there to be a "size effect" inherent in the CAPM. Simply stated, smaller companies have greater risks and require higher rates of return, while larger companies are less risky, and require lower rates of return. Ibbotson Associates has for many years separated companies with publicly traded equity into deciles

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<sup>3</sup>An expanded explanation of the difference between levered and unlevered Betas is summarized as follows. Assuming all other factors that impact a firm's risk are held constant, higher amounts of debt, or financial leverage, increase a firm's risk profile. Thus, higher financial leverage increases the Beta of the equity of the firm. The reason for this, all other things being equal, is higher leverage increases the variability of the firm's income. It can also be thought of as claims on the firm. Debt holders have first claim on the firm's assets versus equity holders. As the amount of debt increases, the risk that the equity holders will face of not receiving their claim is greater.

An unlevered Beta reflects the risk of the firm's equity assuming that the company is financed with 100% equity. Since greater levels of debt or leverage brings greater variability to the firm's income, the risk to the shareholder increases as the amount of debt increases.

To reflect these higher risks, Beta is adjusted for the relative portions of debt and equity within the firm. This leverage adjusted Beta, or "levered Beta," is defined mathematically as follows:

***Levered Beta = Unlevered Beta x [1 + (1 - Corporate Tax Rate) x (Debt Capital/Equity Capital)]***

Since the STB does not account for and does not consider the tax-shielding effects of a company's tax rate in its Cost of Capital determination, the impact of tax rates was excluded from our levered Beta calculation, and the equation simplifies to:

***Levered Beta = Unlevered Beta x [1 + (Debt Capital/Equity Capital)]***

If the firm has no debt financing, then the debt to equity ratio is 0, and the levered and unlevered beta are equal. This also reflects the least risky position for the shareholders since they have 100 percent of the claims on the firm. As the amount of debt in the firm increases and the equity becomes more risky, the levered beta also increases.

based on size and calculated the size premium inherent in each decile's cost of equity. Exhibit No. 3 to this verified statement contains excerpts of Ibbotson's Risk Premia Over Time Reports for 2004 to 2007, which contain updates on company size premiums for each year 2003 through 2006. For example, as shown in the Ibbotson 2007 report, those companies in the highest decile with market capitalizations of greater than approximately \$16.9 billion have a negative size premium of approximately 0.36 percent. In other words, the largest publicly traded companies have, on average, had equity returns 0.36 percent less than that estimated by a straight application of the CAPM. Similarly, those companies with the smallest market capitalizations (less than \$173 million) have shown size premiums of upwards of 9.68 percent. Any calculation of the COE using the CAPM should take into consideration the relative size of the firms.

Using publicly available U.S. government security information and Ibbotson Beta and risk premium information, we have calculated the 2003 to 2006 composite COE for the railroad industry using the CAPM. The determination of the data to include in the CAPM and its application are discussed below.

The first required component in the CAPM is an estimate of the risk-free rate of return for each year. As mentioned previously, consensus amongst financial analysts today is to use long term government securities as a proxy for the risk-free rate of return.<sup>4</sup> We used the average 20-year U.S.

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<sup>4</sup>The estimated risk-free rate using long-term U.S. government securities actually has one element of risk: maturity or interest risk. This is the risk that the value of the bond will fluctuate with changes in general level of interest rates. It is generally agreed though that, even with this risk, long-term government securities remain the best proxy.



Treasury yield to maturity for each study year as the risk-free rate when developing the COE under the CAPM. To be consistent with the STB's COC calculations, we developed the average on a monthly basis. Table 1 below displays the average risk-free rate for 2003 to 2006.

| <u>Year</u><br>(1) | <u>Average</u><br><u>Risk Free Rate</u><br>(2) |
|--------------------|--|
| 1. 2003            | 4.96%  |
| 2. 2004            | 5.05%  |
| 3. 2005            | 4.65%  |
| 4. 2006            | 4.99%  |

Source: Exhibit No. 4.

As shown in Table 1 above, the average risk free rate ranged from 4.65 percent to 5.05 percent during the four year study period.

To measure systematic risk, we obtained from Ibbotson its estimates for the unlevered Beta for the four U.S. based Class I railroads included in the AAR's COC analysis, UP, BNSF, CSXT and NS ("Class I railroads" or "Study Group") for each of the study years. A railroad industry weighted average unlevered Beta was calculated using the average market value of common equity of each of the four railroads included in the Study Group as the weighting factor. Table 2 below shows the railroad industry composite unlevered Beta for each of the study years.



| <u>Year</u><br>(1) | <u>Unlevered Common<br/>Equity Betas</u><br>(2) |
|--------------------|---|
| 1. 2003            | 0.37  |
| 2. 2004            | 0.40  |
| 3. 2005            | 0.56  |
| 4. 2006            | 0.64  |

Source: Exhibit No. 5, Line 5 on each page.

As shown in Table 2 above, the railroad industry composite unlevered Beta ranged from 0.37 in 2003 to 0.64 in 2006.

We next adjusted the composite unlevered Beta by the weighted average railroad debt to equity ratio for each year to yield a levered Beta, which takes into consideration the risk implicit in the railroad industry COE from the railroad industry's debt load. Table 3 below summarizes our calculations of the railroad industry composite average levered Betas for 2003 to 2006.

| <u>Item</u><br>(1)                                | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Railroad Industry Debt to Equity Ratio         |                    |                    |                    |                    |
| a. Debt Portion of Capital Structure              | 42.8%              | 38.5%              | 30.4%              | 22.8%              |
| b. Equity Portion of Capital Structure            | <u>57.2%</u>       | <u>61.5%</u>       | <u>69.6%</u>       | <u>77.2%</u>       |
| c. Debt/Equity Ratio <sup>1/</sup>                | 0.75               | 0.63               | 0.44               | 0.30               |
| 2. Railroad Industry Unlevered Beta <sup>2/</sup> | <u>0.37</u>        | <u>0.40</u>        | <u>0.56</u>        | <u>0.64</u>        |
| 3. Railroad Industry Levered Beta <sup>3/</sup>   | 0.65               | 0.66               | 0.81               | 0.82               |

<sup>1/</sup> Line 1a ÷ Line 1b.  
<sup>2/</sup> Exhibit No. 5, Line 5 or Table 2 above.  
<sup>3/</sup> (1 + Line 1c) x Line 2.  
Source: Exhibit No. 6, Line 3.

As shown in Table 3 above, the railroad industry composite average levered Beta ranged from 0.65 in 2003 to 0.82 in 2006.<sup>5</sup>

Next, we obtained risk premium information from Ibbotson that reflected the market risk premium at the end of each study year. Ibbotson's estimates of the long-term equity risk premium equaled 7.2 percent in 2003 and 2004 and 7.1 percent for 2005 and 2006. In addition, the size premium of the railroad industry was also considered for each year. As mentioned previously,

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<sup>5</sup>Normally, levered Betas are calculated by multiplying the unlevered Beta by one plus the company's debt to equity ratio times one less the company's effective tax rate ( $\beta_{\text{levered}} = \beta_{\text{unlevered}} \times (1 + [(Debt \div Equity) \times (1 - \text{tax rate})])$ ). Because the STB does not consider the tax-shielding effects of a company's tax rate in its COC determination, the impact of tax rates was excluded from the leveraged Beta calculation.

financial analysts believe that company size impacts the relative risks of equities. The four carriers in the Study Group have relatively large market capitalizations and therefore can be expected to have relatively low risk relative to smaller companies, all other factors being equal. Ibbotson has calculated separate size premiums for each year for each decile of companies' market capitalization. By weighting the size premiums by the four railroads' market capitalizations, we determined a composite railroad industry size premium for each study year. Table 4 below summarizes our determination of each year's weighted average industry size premium.

| <u>Year</u><br>(1) | <u>Size Premium</u><br>(2) |
|--------------------|----------------------------|
| 1. 2003            | 0.18%                      |
| 2. 2004            | 0.27%                      |
| 3. 2005            | 0.04%                      |
| 4. 2006            | (0.20%)                    |

Source: Exhibit No. 7, Line 5 for each year.

Having developed a proxy of the risk-free rate, calculated the railroad industry composite levered Beta and composite size premium and obtained current estimates of the equity risk premium, we combined the data to develop the COE using the CAPM for each year, which is shown in Table 5 below.

Table 5  
**Railroad Industry Cost of Equity - 2003 to 2006**

| <u>Item</u><br>(1)                                | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Average Risk Free Rate                         | 4.96%              | 5.05%              | 4.65%              | 4.99%              |
| 2. Railroad Risk Premium                          |                    |                    |                    |                    |
| a. Equity Risk Premium                            | 7.20%              | 7.20%              | 7.10%              | 7.10%              |
| b. Railroad Industry Levered Beta                 | <u>0.65</u>        | <u>0.66</u>        | <u>0.81</u>        | <u>0.82</u>        |
| c. Railroad Industry Risk Premium <sup>1/</sup>   | 4.70%              | 4.72%              | 5.72%              | 5.84%              |
| 3. Railroad Industry Size Premium                 | 0.18%              | 0.27%              | 0.04%              | (0.20%)            |
| 4. Railroad Industry Cost of Equity <sup>2/</sup> | 9.83%              | 10.04%             | 10.41%             | 10.64%             |

<sup>1/</sup> Line 2a x Line 2b.  
<sup>2/</sup> Line 1 + Line 2c + Line 3. Totals may not foot due to rounding.  
 Source: Exhibit No. 6.

As shown in Table 5 above and when the data is combined, the composite railroad industry COE ranges from 9.83 percent in 2003 to 10.64 percent in 2006, or an increase of 81 basis points over four years.<sup>6</sup>

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<sup>6</sup>One (1) basis point equals 0.01 percent.

### **III. RAILROAD INDUSTRY COST OF CAPITAL**

To develop an initial determination of the railroad industry COC for each year in the study period, we utilized the same approach as used by the STB for its determination of the 2003, 2004 and 2005 COC and by the AAR for its estimate of the 2006 COC, with the exception of the COE calculation. For COE, we substituted the CAPM COE for each year instead of using the COE developed by the STB in 2003, 2004 and 2005 and proposed by the AAR for 2006. The other components of the COC remained the same, including a composite railroad industry capital structure and the railroad industry cost of debt.

Table 6 below summarizes the 2003 to 2006 COC using a CAPM COE.

| <u>Item</u><br>(1)  | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Weighted Cost of Equity                                  |                    |                    |                    |                    |
| a. Railroad Industry Cost of Equity                         | 9.83%              | 10.04%             | 10.41%             | 10.64%             |
| b. Equity Portion of Capital Structure                      | <u>57.2%</u>       | <u>61.5%</u>       | <u>69.6%</u>       | <u>77.2%</u>       |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 5.62%              | 6.18%              | 7.24%              | 8.21%              |
| 2. Weighted Cost of Debt                                    |                    |                    |                    |                    |
| a. Railroad Industry Cost of Debt                           | 5.00%              | 5.25%              | 5.36%              | 5.97%              |
| b. Debt Portion of Capital Structure                        | <u>42.8%</u>       | <u>38.5%</u>       | <u>30.4%</u>       | <u>22.8%</u>       |
| c. Weighted Cost of Railroad Industry Debt                  | 2.14%              | 2.02%              | 1.63%              | 1.36%              |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 7.76%              | 8.20%              | 8.87%              | 9.57%              |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c.  
 Source: Exhibit No. 6.

As shown in Table 6 above, based on STB’s capital structure and COD for each year and the CAPM determined COE, the railroad industry weighted average COC increased from 7.76 percent in 2003 to 9.57 percent in 2006.



To verify our COC estimations, we searched for independent calculations of the individual railroads or the railroad industry COC.<sup>7</sup> Our search found a readily available public source that meet this criterium.

Standard & Poor’s (“S&P”), through its stock reports for the Study Group, develops each railroad’s weighted average COC for use in S&P’s estimation of each company’s total enterprise value through the use of a discounted cash flow (“DCF”) model.<sup>8</sup> Table 7 below displays S&P’s estimates of the four railroads’ weighted average costs of capital at the end of 2006.

| <u>Railroad</u><br>(1)                     | <u>Weighted Average<br/>Cost of Capital</u><br>(2) |
|--|--|
| 1. Union Pacific Corporation               | 8.0%   |
| 2. Burling Northern & Santa Fe Corporation | 8.6%   |
| 3. CSX Corporation                         | 9.0%   |

<sup>7</sup>We define “independent” in this situation as COC estimates not prepared specifically for the instant proceeding.

<sup>8</sup>We also note the relevance of the multiple growth estimates that S&P uses in its DCF valuation of the individual railroads. The STB’s DCF model for estimating the railroad industry COE is essentially the same model as S&P’s DCF model used to develop S&P’s railroad enterprise values, and relies upon the same basic economic principles. However, unlike the STB’s DCF model, which uses a single growth rate and assumes that railroad earnings and dividends will grow at the same rate for perpetuity, S&P’s DCF model assumes that the railroads have at least two growth rates – a short-term growth rate lasting 10 years, and a long term, or “terminal,” growth rate which will last into perpetuity. S&P could have developed its DCF model assuming a single growth rate, but recognized that the railroads cannot maintain their current high growth rate forever. Instead, S&P utilized multiple growth rates in its DCF valuation model recognizing that not to do so would overstate the railroads’ values.

|                        |                              |      |
|------------------------|------------------------------|------|
| 4.                     | Norfolk Southern Corporation | 9.1% |
| <hr/>                  |                              |      |
| Source: Exhibit No. 8. |                              |      |

As shown in Table 7 above, S&P has estimated the COC for the four railroads in the Study Group to range from 8.0 percent to 9.1 percent. While lower than our estimate of the 2006 railroad industry weighted average COC, S&P's estimates are much closer to our estimates than the 13.8 percent COC proposed by the AAR utilizing the procedure applied by the STB in prior years.<sup>9</sup>

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<sup>9</sup>The reasons S&P's estimates are lower are unknown from the data contained in the S&P stock reports, but are most likely due to one of two reasons. First, most Wall Street and valuation analysts adjust the company's cost of debt for the tax advantage of corporate borrowing by multiplying the company's COD by one minus marginal corporate tax rate. This lowers the COD and the overall COC. Second, S&P may have adjusted the capital mix to a target long-term target capital structure, thereby placing less weight on equity capital and more weight on lower cost debt capital.

**IV. IMPACT OF CAPITAL  
STRUCTURE ON RAILROAD  
INDUSTRY COST OF CAPITAL**

We determine the COC for 2003 to 2006 assuming different railroad industry capital structures than those developed by the STB for its 2003 to 2005 COC determinations and the railroad industry capital structure proposed by the AAR for 2006. Specifically, we calculated the COC for each year between 2003 and 2006 assuming a 60 percent common equity and 40 percent debt capital structure, a 50 percent common equity and 50 percent debt capital mix and a 100 percent common equity basis. In addition, we calculated the 2003 to 2006 COC using STB and AAR COE and COD, but using different capital mixes. We discuss the results of our calculations below.

The railroad industry capital structure is a key component of the COC estimate given it impacts not only the weighting of the various required returns, but also has impacts on the required returns. Adjusting the railroad industry average capital structure has two impacts on our COC calculation. First, changing the capital mix impacts the calculation of the railroad industry's average levered Beta, which subsequently changes the railroad industry COE under the CAPM methodology.<sup>10</sup> Second, adjusting the capital structure changes the relative weights of the COE and COD, further changing the COC. As the amount of debt in the capital structure increases, greater weight is placed

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<sup>10</sup>The reason for this is the levered Beta used in the CAPM accounts for changes in risk to stockholders as the amount of debt in the firm changes, holding all else constant. Theoretically, as the amount of debt increases, the more risky the firm becomes, and the greater the return required to owners of the company's capital. Therefore, as the amount of debt in the firm increases, the Beta increases and the cost of equity also increases. The converse is also true. As the amount of debt in the firm decreases, the less risky the firm becomes, and the lower the required return. For simplicity sake, we also assume that the COD will not change with changes in the capital mix, however, changes in the capital structure of the firm will also impact the COD.

on the lower COD leading to a lower COC, holding all else constant. Whether the impact of the change in the capital mix is a net increase or decrease in the COC will depend upon the mix of variables.

Table 8 below displays the results of using a target 60 percent common equity and 40 percent debt capital structure in lieu of the capital structure used by the STB and proposed by the AAR.

| Item<br>(1)   | 2003<br>(2)  | 2004<br>(3)  | 2005<br>(4)  | 2006<br>(5)  |
|---|--------------|--------------|--------------|--------------|
| 1. Weighted Cost of Equity                                  |              |              |              |              |
| a. Railroad Industry Cost of Equity                         | 9.61%        | 10.16%       | 11.32%       | 12.31%       |
| b. Equity Portion of Capital Structure                      | <u>60.0%</u> | <u>60.0%</u> | <u>60.0%</u> | <u>60.0%</u> |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 5.77%        | 6.10%        | 6.79%        | 7.39%        |
| 2. Weighted Cost of Debt                                    |              |              |              |              |
| a. Railroad Industry Cost of Debt                           | 5.00%        | 5.25%        | 5.36%        | 5.97%        |
| b. Debt Portion of Capital Structure                        | <u>40.0%</u> | <u>40.0%</u> | <u>40.0%</u> | <u>40.0%</u> |
| c. Weighted Cost of Railroad Industry Debt                  | 2.00%        | 2.10%        | 2.14%        | 2.39%        |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 7.77%        | 8.20%        | 8.94%        | 9.78%        |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c. Figures may not foot due to rounding.  
 Source: Exhibit No. 9.

As shown in Table 8 above, adjusting the capital structure to reflect a 60 percent/40 percent common equity to debt mix increases the COC by one (1), seven (7) and 21 basis points, respectively, in 2003, 2005 and 2006 versus our CAPM calculations using the STB's and AAR's railroad industry capital structures, while remaining basically unchanged in 2004.<sup>11</sup>

Adjusting the railroad industry capital structure to a 50 percent common equity/50 debt mix has similar changes in the COC as shown in Table 9 below.

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<sup>11</sup>As shown in Exhibit 6, the STB determined the railroad industry's 2004 capital mix included 61.5 percent common equity and 38.5 percent debt, which is nearly equal to the hypothetical capital structure in the example.

Table 9  
**Railroad Industry Weighted Cost of Capital With  
50 Percent Common Equity and 50 Percent Debt Capital Structure**

| Item<br>(1)   | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Weighted Cost of Equity                                  |                    |                    |                    |                    |
| a. Railroad Industry Cost of Equity                         | 10.51%             | 11.13%             | 12.65%             | 13.82%             |
| b. Equity Portion of Capital Structure                      | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 5.25%              | 5.57%              | 6.33%              | 6.91%              |
| 2. Weighted Cost of Debt                                    |                    |                    |                    |                    |
| a. Railroad Industry Cost of Debt                           | 5.00%              | 5.25%              | 5.36%              | 5.97%              |
| b. Debt Portion of Capital Structure                        | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       |
| c. Weighted Cost of Railroad Industry Debt                  | 2.50%              | 2.63%              | 2.68%              | 2.99%              |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 7.75%              | 8.19%              | 9.01%              | 9.89%              |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c. Figures may not foot due to rounding.  
Source: Exhibit No. 10.

As shown in Table 9 above, switching to a 50 percent common equity/ 50 percent debt capital mix lowers the COC by one (1) basis point in 2003 and 2004. In 2005 and 2006, the higher percentage of debt caused the COC to increase by 14 and 32 basis points over our calculations using the STB’s and AAR’s railroad industry capital structures.

Finally, we calculated the COE and COC assuming 100 percent common equity financing as shown in Table 10 below.

Table 10  
**Railroad Industry Cost of Capital With  
100 Percent Common Equity Capital Structure**

| <u>Item</u><br>(1)  | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Weighted Cost of Equity                                  |                    |                    |                    |                    |
| a. Railroad Industry Cost of Equity                         | 7.82%              | 8.23%              | 8.67%              | 9.31%              |
| b. Equity Portion of Capital Structure                      | <u>100.0%</u>      | <u>100.0%</u>      | <u>100.0%</u>      | <u>100.0%</u>      |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 7.82%              | 8.23%              | 8.67%              | 9.31%              |
| 2. Weighted Cost of Debt                                    |                    |                    |                    |                    |
| a. Railroad Industry Cost of Debt                           | 5.00%              | 5.25%              | 5.36%              | 5.97%              |
| 2. Debt Portion of Capital Structure                        | <u>0.0%</u>        | <u>0.0%</u>        | <u>0.0%</u>        | <u>0.0%</u>        |
| 3. Weighted Cost of Railroad Industry Debt                  | 0.00%              | 0.00%              | 0.00%              | 0.00%              |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 7.82%              | 8.23%              | 8.67%              | 9.31%              |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c.  
 Source: Exhibit No. 11.

As shown in Table 10 above, assuming a 100 percent common equity capital structure increases the COC slightly in 2003 and 2004 as compared to the railroad industry weighted cost of capital based on the STB’s and AAR’s weighting factors and summarized in Table 6 above. The opposite is true for 2005 and 2006, that is the COC decreases.

Finally, we calculate the railroad industry COC for each of the study years using the target capital structures from above and the COE and COD decided by the STB in its 2003, 2004 and 2005 Ex Parte No. 558 decisions and proposed by the AAR in this proceeding. Table 11 below shows the

results of using the STB’s and AAR’s required rates of return and a 60 percent common equity/40 percent debt capital mix.

Table 11  
**Railroad Industry Weighted Cost of Capital With STB/AAR COE and  
 And COD With 60 Percent Common Equity and 40 Percent Debt Capital Structure**

| Item<br>(1)   | 2003<br>(2)  | 2004<br>(3)  | 2005<br>(4)  | 2006<br>(5)  |
|---|--------------|--------------|--------------|--------------|
| 1. Weighted Cost of Equity                                  |              |              |              |              |
| a. Railroad Industry Cost of Equity                         | 12.70%       | 13.16%       | 15.18%       | 16.10%       |
| b. Equity Portion of Capital Structure                      | <u>60.0%</u> | <u>60.0%</u> | <u>60.0%</u> | <u>60.0%</u> |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 7.62%        | 7.90%        | 9.11%        | 9.66%        |
| 2. Weighted Cost of Debt                                    |              |              |              |              |
| a. Railroad Industry Cost of Debt                           | 5.00%        | 5.25%        | 5.36%        | 5.97%        |
| b. Debt Portion of Capital Structure                        | <u>40.0%</u> | <u>40.0%</u> | <u>40.0%</u> | <u>40.0%</u> |
| c. Weighted Cost of Railroad Industry Debt                  | 2.00%        | 2.10%        | 2.14%        | 2.29%        |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 9.62%        | 10.00%       | 11.25%       | 12.05%       |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c. Figures may not foot due to rounding.  
 Source: Exhibit No. 12.

As shown in Table 11 above, substituting a 60 percent common equity/40 percent debt capital mix leads to COC’s ranging from 9.62 percent to 12.05 percent. These estimates are, on average, 65 basis points lower than the COC estimated by the STB and AAR.<sup>12</sup>

<sup>12</sup>The STB estimated the railroad industry COC were 9.4 percent, 10.1 percent and 13.8 percent in 2003, 2004 and 2005, respectively, while the AAR proposes a 13.8 percent COC for 2006. Therefore, [(9.4 percent - 9.62 percent) + (10.1 percent - 10.0 percent) + (12.2 percent - 11.25 percent) + (13.8 percent - 12.05 percent)] ÷ 4 = 0.65 percent or 65 basis points.



Additionally, using a 50 percent common equity/50 percent debt target capital structure produces similar results as shown in Table 12 below.

| <u>Item</u><br>(1)  | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) |
|---|--------------------|--------------------|--------------------|--------------------|
| 1. Weighted Cost of Equity                                  |                    |                    |                    |                    |
| a. Railroad Industry Cost of Equity                         | 12.70%             | 13.16%             | 15.18%             | 16.10%             |
| b. Equity Portion of Capital Structure                      | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       |
| c. Weighted Cost of Railroad Industry Equity <sup>1/</sup>  | 6.35%              | 6.58%              | 7.59%              | 8.05%              |
| 2. Weighted Cost of Debt                                    |                    |                    |                    |                    |
| a. Railroad Industry Cost of Debt                           | 5.00%              | 5.25%              | 5.36%              | 5.97%              |
| b. Debt Portion of Capital Structure                        | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       | <u>50.0%</u>       |
| c. Weighted Cost of Railroad Industry Debt                  | 2.50%              | 2.63%              | 2.68%              | 2.99%              |
| 3. Railroad Industry Weighted Cost of Capital <sup>2/</sup> | 8.85%              | 9.21%              | 10.27%             | 11.04%             |

<sup>1/</sup> Line 1a x Line 1b.  
<sup>2/</sup> Line 1c + Line 2c. Figures may not foot due to rounding.  
 Source: Exhibit No. 12.

As shown in Table 12 above, using a 50 percent common equity and 50 percent debt target capital structure has an even greater impact on the COC than a 60 percent common equity/40 percent debt mix, with COC now ranging from 8.85 percent to 11.04 percent. Using a 50 percent common equity/50 percent debt mix leads to COC estimates which are, on average, 153 basis points lower

than calculated by the STB and AAR using their calculations of the railroad industry capital structures.<sup>13</sup>

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<sup>13</sup> $[(9.4 \text{ percent} - 8.85 \text{ percent}) + (10.1 \text{ percent} - 9.21 \text{ percent}) + (12.2 \text{ percent} - 10.07 \text{ percent}) + (13.8 \text{ percent} - 11.04 \text{ percent})] \div 4 = 1.53 \text{ percent or } 153 \text{ basis points.}$

## V. RAILROAD'S USE OF CASH

We next compared the cash the Class I railroads have used on capital expenditures in the last four years to the cash used to repay debt and to distribute to shareholders. We discuss the results of our comparisons below.

Everyday, firms make decisions about what they will do with cash generated and used by their operating, investment and financing activities.<sup>14</sup> Businesses must maintain a balance between retaining cash to fund continuing operations and investments and distributing cash to debt and equity holders. Within the railroad industry, railroads have historically retained cash within their companies to fund operations and capital programs. This historical trend, however, has shifted in the last few years as the railroads have distributed more cash to shareholders through stock repurchases and dividends, and to debt holders through the retirement of debt.

Table 13 below compares the net cash distributed to shareholders to cash the railroads have used for net capital expenditures as reported in Class I railroads' SEC Form 10-K Consolidated Statements of Cashflow.

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<sup>14</sup>Operating activities include income from business operations and changes in working capital accounts such as receivables and payables. Investing activities include the acquisition and disposition of non-current assets such as property, plant and equipment and short-term investments in other companies or assets. Financing activities include the issuing of debt and equity instruments, the repayment of debt, and the distribution of cash to shareholders.

Table 13  
**Comparison Of Cash Distributed To  
Common Equity Holders And Net Capital Expenditures**  
(Millions of dollars)

| <u>Item</u><br>(1)                                     | <u>Base<br/>2003</u><br>(2) | <u>Increase<br/>in 2004</u><br>(3) | <u>Increase<br/>in 2005</u><br>(4) | <u>Increase<br/>in 2006</u><br>(5) | <u>Cumulative<br/>Increase</u><br>(6) |
|--|-----------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------------|
| 1. Cash Distributed to Common Equity Holders           |                             |                                    |                                    |                                    |                                       |
| a. Dividends Paid                                      | \$628                       | \$141                              | \$99                               | \$187                              | \$427                                 |
| b. Stock Repurchases                                   | <u>\$217</u>                | <u>\$149</u>                       | <u>\$1,023</u>                     | <u>\$760</u>                       | <u>\$1,942</u>                        |
| c. Net Payments to Common Equity Holders <sup>1/</sup> | \$845                       | \$300                              | \$1,122                            | \$947                              | \$2,369                               |
| 2. Net Capital Expenditures                            | \$5,029                     | \$225                              | \$531                              | \$1,036                            | \$1,792                               |
| 3. Net Difference <sup>2/</sup>                        | ---                         | \$75                               | \$591                              | (\$89)                             | \$577                                 |

<sup>1/</sup> Sum of Lines 1a to 1b.

<sup>2/</sup> Line 2 - Line 1d.

Source: Exhibit No. 13.

As shown in Table 13 above, the Class I railroads increased their cash disbursements to common equity holders in the form of cash dividends and stock repurchases by approximately \$2.4 billion over the four year period. During the same time period, the Class I railroads increased net cash expended on net capital projects by approximately \$1.8 billion.<sup>15</sup>

The disbursements of cash to common equity holders was not the only use of cash to repay holders of capital within the Class I railroads. As shown in Table 14 below, the Class I railroads also used their increases in cashflow to repay long-term debt.

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<sup>15</sup>We define net capital projects as the difference between cash expended on capital projects less cash received from the sale of assets as reported on the Class I railroads Statement of Cash Flows.

| Item<br>(1)                                 | <u>2003</u><br>(2) | <u>2004</u><br>(3) | <u>2005</u><br>(4) | <u>2006</u><br>(5) | Cumulative<br><u>2003 to 2006</u><br>(6) |
|---|--------------------|--------------------|--------------------|--------------------|--|
| 1. Payments on Long-Term Debt               | \$3,384            | \$1,777            | \$3,335            | \$2,099            | \$10,505                                 |
| 2. Proceeds From Issuance of Long-Term Debt | <u>\$5,029</u>     | <u>\$5,254</u>     | <u>\$5,785</u>     | <u>\$6,821</u>     | <u>\$5,557</u>                           |
| 3. Net Cash Distributed <sup>1/</sup>       | \$1,210            | \$203              | \$2,297            | \$1,238            | \$4,948                                  |

<sup>1/</sup> Line 1 - Line 2.  
Source: Exhibit No. 14.

As shown in Table 14 above, the Class I railroads disbursed a net of \$4.95 billion in cash to their long-term debt holders over the four year period, excluding the interest paid to debt holders over the same period.