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April 20, 2015

Ms. Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, S.W.
Washington, DC 20423

238239
ENTERED
Office of Proceedings
April 20, 2015
Part of
Public Record

Re: STB Docket No. EP 558 (Sub-No. 18), *Railroad Cost of Capital—2014*

Dear Ms. Brown:

Pursuant to the Decision served by the Board on February 19, 2015, attached please find the Comments of the Association of American Railroads (AAR) in the above captioned proceeding. Also attached are the AAR's underlying workpapers which will be made available upon request to other participants in the proceeding.

A copy of the same on a compact disc, in MS Word and PDF format, will be hand-delivered for the Board's convenience. The disc will also include workpapers and spreadsheets.

Respectfully submitted,

Timothy J. Strafford
Counsel for the Association of
American Railroads

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF
CAPITAL — 2014

))))
EX PARTE NO. 558 (Sub- No. 18)

**COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS
AND ITS MEMBER RAILROADS**

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April 20, 2015

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Verified Statements

Witness*	Subject
John T. Gray	The railroads' market value capital structure, overall cost of capital, cost of common and preferred equity, and cost of all types of debt.

*Verified statements are referenced in these comments by witness name – viz., V.S. Gray at _____

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

RAILROAD COST OF CAPITAL — 2014)))))	STB Docket No. EP 558 (Sub-No. 18)
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**COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS
AND ITS MEMBER RAILROADS**

By order served February 19, 2015, the Surface Transportation Board (Board) instituted this proceeding to determine the railroad industry’s cost of capital for the year 2014. That determination, as the Board noted, will enable it to make the statutorily required annual individual railroad revenue adequacy determination for 2014. 49 U.S.C. § 10701(d)(2), § 10704(a)(2). The Board noted further that the cost of capital determination may also be used in various other STB railroad proceedings. *See Railroad Cost of Capital – 2014*, EP 558 (Sub-No. 18) (STB served Feb. 19, 2015).

The railroads, through the Association of American Railroads (AAR), are submitting their calculation of: (1) the railroads’ 2014 cost of common equity capital; (2) the railroads’ 2014 current cost of preferred equity capital; (3) the railroads’ current 2014 cost of debt capital; and (4) the 2014 capital structure mix of the railroad industry on a market value basis.

The AAR’s calculations are discussed in the attached verified statement of John T. Gray, Senior Vice President, Policy and Economics of the AAR. Mr. Gray’s statement establishes the following:

1. The 2014 cost of common equity capital is 12.06 percent.

3. The 2014 cost of preferred equity capital is 3.69 percent.
3. The 2014 cost of debt capital is 3.58 percent.
4. The capital structure of the railroad industry is 16.66 percent debt, 0.00 percent preferred equity,¹ and 83.34 percent common equity.

From these data Mr. Gray concludes that the overall railroad industry cost of capital for 2014 is 10.65 percent.²

I. Introduction

The sole purpose of this proceeding is to determine the railroad industry's cost of capital for 2014. The cost of capital will be computed using the current cost of debt and equity and market value weights. *See Standards for Railroad Revenue Adequacy*, 3 I.C.C.2d 261 (1986), *aff'd sub nom., Consolidated Rail Corporation v. United States*, 855 F.2d 78 (3rd Cir. 1988). The Board has adopted a composite railroad approach to computing an industry-wide cost of capital. This approach relies upon data from a sample of railroads meeting criteria established by the Board's predecessor, the Interstate Commerce Commission, in Ex Parte No. 458, *Railroad Cost of Capital — 1984*, 1 I.C.C. 2d 989, 1003–1004 (1985). That criteria is: (1) the company is a Class I line-haul railroad; (2) if the Class I railroad is controlled by another company, the controlling company is primarily a railroad company (at least 50 percent of its total assets are devoted to railroad operations), and it is not already included in the study frame; (3) the company's bonds are rated at least BBB by Standard & Poor's and Baa by Moody's; (4) the

¹ The weight for preferred equity is 0.003 percent which rounds to 0.00. If three-digit weights are used, the cost of capital is still 10.65 percent as shown in Gray V.S. on page 50.

² Gray V.S. at 2, 51.

company's stock is listed on either the New York or the American Stock Exchange; and (5) the company has paid dividends throughout the year (2014).

This year there are four railroad corporations or holding companies in the sample meeting the Board's criteria: CSX Corporation, Kansas City Southern, Norfolk Southern Corporation, and Union Pacific Corporation. These railroad companies are the same four companies included in the 2013 sample.

II. The Cost of Common Equity Capital

In its February 19, 2015, order instituting this proceeding, the Board directed that the cost of capital components be calculated "using the methodology followed in Railroad Cost of Capital –2013." See *Railroad Cost of Capital – 2014*, EP 558 (Sub-No. 18), slip op. at 2 (STB served Feb. 19, 2015). In *Railroad Cost of Capital –2013*, the Board calculated the cost of equity component in its annual cost of capital proceeding using a simple average of the estimates produced by the Capital Asset Pricing Model (CAPM) adopted in *Methodology to be Employed in Determining the Railroad Industry's Cost of Capital*, EP 664 (STB served Jan. 17, 2008) and the Morningstar/Ibbotson Multi-Stage Discounted Cash Flow Model (MSDCF) adopted in *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, EP 664 (Sub-No. 1) (STB served Jan. 28, 2009).³ See *Railroad Cost of Capital – 2013*, EP 558 (Sub-No. 17), slip op. at 7-11 (STB served July 31, 2014).⁴ Mr. Gray used a simple

³ The Morningstar/Ibbotson MSDCF model adopted by the Board is a modified version that includes only the railroads that pass the screening criteria set forth in *Railroad Cost of Capital—1984*, 1 I.C.C. 2d 989 (1985), for inclusion in the sample of railroads used for the annual cost of capital determination. See *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, EP 664 (Sub-No. 1), slip op. at 4 (STB served Jan. 28, 2009).

⁴ The Board determined that using a simple average of CAPM and the commercially accepted Morningstar/Ibbotson multi-stage DCF model to calculate the cost of equity yields a more precise determination than relying on CAPM alone. As noted by the Board, "By using an average of the results

average of the CAPM and Morningstar/Ibbotson MSDCF models adopted by the Board in his calculation of the cost of common equity in this proceeding.

A. The CAPM Methodology

Under the CAPM methodology as applicable to the annual cost of capital proceeding, the cost of common equity is calculated by determining the return an investor would receive on a risk-free investment and by adding to the risk-free return a premium associated with the risk of railroad stocks. The premium is calculated by multiplying the market risk premium of the stock market as a whole by a factor, known as Beta, that represents the non-diversifiable risk of holding railroad stocks. In formulaic terms, the CAPM can be expressed as:

$$K = RF + (MRP \times \text{Beta})$$

Where K = the firm's cost of equity,

RF = the risk-free rate,

MRP = the market's risk premium, and

Beta = coefficient of systematic, non-diversifiable risk of the stock.

Mr. Gray's attached Verified Statement explains how the AAR calculated the cost of equity using the CAPM methodology. The risk-free rate was retrieved directly from the Federal Reserve Board website as approved by the Board in earlier proceedings, including the 2013 cost of capital proceeding. *Railroad Cost of Capital – 2013*, EP 558 (Sub-No. 17), slip op. at 8. Since the 2006 cost of capital determination, the well-regarded and widely-accepted Ibbotson Equity Risk Premium has been used for the market risk premium, as found in the *Ibbotson SBBI Valuation Yearbook* published by Morningstar.⁵ Though that publication is no longer distributed

produced by both models, we harness the strengths of both models while minimizing their respective weaknesses. The result should be a stable yet precise estimate of the cost of equity that we can use in future regulatory proceedings and to gauge the financial health of the railroad industry." *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, EP 664 (Sub-No. 1), slip op. at 15 (STB served Jan. 28, 2009).

⁵ Ibbotson Associates is a wholly-owned subsidiary of Morningstar, Inc. "SBBI" stands for "Stocks,

by Morningstar, much of the same data can be found in other Ibbotson documents such as the *Ibbotson SBBI Classic Yearbook*, and the AAR continues to use the Ibbotson Equity Risk Premium as the market risk premium here. Gray V.S. at 29. The calculation for Beta was made using the S&P 500 Price Return Index and the same methodology approved by the Board in the 2013 cost of capital proceeding. *See id.*; Gray V.S. at 30.

The values determined by Mr. Gray for the elements of the CAPM methodology were 3.07 percent for the risk-free rate, 7.00 percent for the market risk premium, and 1.2503 for Beta.

Based on a four-railroad composite (determined using the Board's procedures established in *Railroad Cost of Capital – 1984*, 1 I.C.C.2d 989 (1985)) and the procedures used by the STB in the last cost of capital proceeding, Mr. Gray estimates that under the CAPM methodology the cost of common equity capital for 2014 is 11.82 percent. Gray V.S. at 34.

B. The Morningstar/Ibbotson MSDCF Methodology

The Morningstar/ Ibbotson MSDCF methodology, as adopted by the Board, calculates the cost of common equity capital as follows:

The cost of equity in a DCF model is the discount rate that equates a firm's market value to the present value of the stream of cash flows that could affect investors. These cash flows are not presumed to be paid out to investors; instead, it is assumed investors will ultimately benefit from these cash flows through higher regular dividends, special dividends, stock buybacks, or stock price appreciation. The incorporation of these cash flows and the expected growth of earnings are the essential aspects of the multi-stage DCF we are adopting here.

The Morningstar/Ibbotson model defines cash flows (CF), for the first two stages, as income before extraordinary items (IBEI) minus capital expenditures (CAPEX) plus depreciation (DEP) and deferred taxes (DT), or

$$CF = IBEI - CAPEX + DEP + DT.$$

An average cash flow figure is used as the starting point of the analysis under the Morningstar/Ibbotson model. To find the average cash flow, the model uses the 5-year period leading up to the year being analyzed, and the total cash flows for that time period are divided by total sales, which determine the 5-year cash-flow-to-sales ratio. The ratio is then multiplied by the total sales for the year being analyzed to obtain the average cash flow estimate for that year. For the third (and final) stage of the Morningstar/Ibbotson multistage DCF model stage, Morningstar/Ibbotson uses two additional assumptions: that there is no depreciation or deferred taxes. Therefore, in the third stage, cash flows are based solely on income before extraordinary items.

Growth of earnings is also calculated in three stages. In the first stage (years 1-5), the firm's annual earnings growth rate is assumed to be the median value of the qualifying railroad's 3- to 5-year growth estimates as determined by railroad industry analysts and published by Institutional Brokers Estimate System (IBES). In the second stage (years 6-10), the growth rate is the simple average of all growth rates in stage 1. In stage three (years 11 and onwards), the growth rate is the average long-run nominal growth rate of the U.S. economy. This long-run nominal growth rate is estimated by using the historical growth in real GDP and the long-run expected inflation rate.

Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital, EP 664 (Sub-No. 1), slip. op. at 5-6 (STB served Jan. 28, 2009).

The cost of common equity capital using the Morningstar/Ibbotson MSDCF model adopted by the Board is also calculated and explained in the attached Verified Statement of Mr. Gray. Consistent with the methodology approved by the Board in *Railroad Cost of Capital – 2008*, EP 558 (Sub-No. 12), slip op. at 9-10 (served Sep. 25, 2009), Mr. Gray's calculations used only IBES growth estimates available as of December 31, 2014, and stock market values were based on shares outstanding and stock prices as of the last trading day of the last full week for 2014 – January 2, 2015. Gray V.S. at 39.⁶

Mr. Gray calculates the cost of common equity capital for 2014 using the

⁶ Consistent with the methodology approved by the Board in *Railroad Cost of Capital – 2013*, EP 558 (Sub-No. 17), slip op. at 9-10, Mr. Gray's calculations used data inputs in the cash flow formula as retrieved from the railroads' 2010 - 2014 10-K filings with the SEC (and used restated data where set forth in any subsequently filed 10-K filings with the SEC). See Gray V.S. at 38.

Morningstar/Ibbotson MSDCF model as 12.30 percent. Gray V.S. at 43.

C. Conclusion as to the Cost of Common Equity Capital

Under the Board's methodology, the cost of common equity capital is the simple average of the results using the CAPM and Morningstar/Ibbotson MSDCF models. The simple average produces a cost of common equity capital of 12.06 percent. Gray V.S. at 44.

III. The Cost of Preferred Equity Capital

Preferred stock is a hybrid security which has some characteristics of debt and some characteristics of equity. Its cost depends on its specific features. The methodology used by the Board applies the following criteria:

- (a) Where the preferred is not convertible into common stock, and where the corporation is not required to redeem the preferred at specific times, the cost of preferred equity is equal to its current dividend yield.
- (b) Where the preferred is not convertible but is subject to mandatory redemption providing holders of the instrument with a premium, the cost is equal to the current dividend yield, plus the present value of the premium.
- (c) Where the preferred is convertible at the option of the holder, and the market values of the preferred and common indicate that conversion is likely to occur or that the conversion right controls the price of the preferred, the preferred has the same cost as common equity.

For the first time since 2002, one railroad in the composite had preferred stock outstanding at the end of 2013. This continues for 2014, and the estimated cost of preferred equity is 3.69 percent. Gray V.S. at 47.

IV. The Cost of Debt

The cost of debt can include costs for three categories (bonds, equipment trust certificates, conditional sales agreements) of debt instruments, plus flotation costs.⁷ To determine the cost of debt for bonds, Mr. Gray has computed the average current bond yield for 84 bonds from the sample railroads for which data were available during 2014. This methodology is identical to that used in the last 24 cost of capital proceedings. *Railroad Cost of Capital – 2013*, EP 558 (Sub-No. 17), slip op. at 4. Under this approach, the bond yield is based on a sample representing 98 percent of the book value of the bonds issued by the railroads in the sample.⁸ As the Board has recognized, equipment trust certificates (ETCs) and conditional sales agreements (CSAs) are not actively traded in secondary markets. Their costs were therefore estimated by comparing them to the yields on Treasury securities that are actively traded.⁹ This is the same methodology used by the Board in the last 26 proceedings. The composite current cost of debt is the market-weighted average cost of bonds, ETCs, and CSAs (if there were any), plus a small flotation cost.¹⁰ Using the Board’s established methodology, the railroads’ 2014 cost of new debt is 3.58 percent. Gray V.S. at 23.

⁷ The term “bonds” is used to describe bonds, notes, debentures, and other similar types of debt.

⁸ Bond data were retrieved from a Bloomberg database. Gray V.S. at 8.

⁹ Gray V.S. at 11, 16. No CSAs were modeled because none are outstanding.

¹⁰ In this proceeding, the AAR calculated bond flotation costs by using data reported by the sample railroads to the Securities and Exchange Commission (SEC) regarding seven new debt offerings in 2014. This is the same methodology approved by the Board in *Railroad Cost of Capital – 2013*, EP 558 (Sub-No. 17), slip op. at 5. Gray V.S. at 18-23.

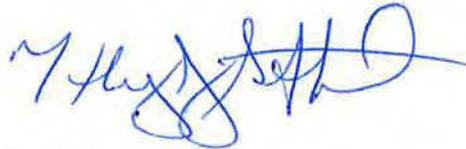
V. The 2014 Capital Structure of the Railroad Industry and the Overall Cost of Capital

Pursuant to the Board's February 19, 2015 decision, the market values of debt, preferred equity, and common equity were compiled to compute the 2014 capital structure of the railroad industry. The railroads' market value capital structure on a market value basis is 16.66 percent debt, 83.34 percent common equity capital, and 0.00 percent preferred equity capital. Gray V.S. at 51. Based upon this capital structure, the overall 2014 cost of capital is 10.65 percent. Gray V.S. at 50.

Conclusion

The Board should determine that the railroads' cost of capital for 2014 is 10.65 percent.

Respectfully submitted,



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April 20, 2015

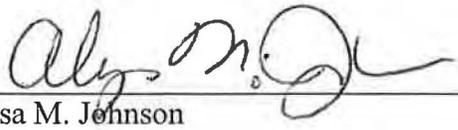
CERTIFICATE OF SERVICE

I hereby certify that on this 20th day of April, 2015, I have caused a copy of the foregoing to be served by first class mail, postage prepaid, on the following:

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Alyssa M. Johnson

BEFORE THE
SURFACE TRANSPORTATION BOARD

EX PARTE NO. 558 (Sub-No. 18)
RAILROAD COST OF CAPITAL — 2014

VERIFIED STATEMENT
OF
JOHN T. GRAY
SENIOR VICE PRESIDENT — POLICY AND ECONOMICS
ASSOCIATION OF AMERICAN RAILROADS

April 20, 2015

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**Verified Statement
of
John T. Gray**

I. Introduction

My name is John T. Gray. I am Senior Vice President – Policy and Economics of the Association of American Railroads (AAR), with offices at 425 Third Street, SW, Suite 1000, Washington, DC 20024. The AAR is the trade association of the Nation’s major railroads, as well as the railroads of Canada and Mexico. The AAR’s United States railroad members, which include all of the Class I railroads plus about 150 additional Class II and III freight railroads, account for approximately 97 percent of our Nation’s total railroad freight operating revenue.

When appropriate, the AAR represents the railroad industry before government bodies, including economic regulatory proceedings before the Surface Transportation Board (“STB” or “Board”). In particular, the AAR has participated in all of the STB proceedings addressing revenue adequacy standards and the annual cost of capital determinations.

Aside from other responsibilities, I have conducted or directed a wide range of analyses and projects addressing regulatory, legislative and internal issues relevant to railroads. Furthermore, I have testified before federal regulatory agencies, and have been an expert witness for a railroad. A summary of my qualifications and experience appears at the end of this statement.

In this submission, I am responding to the Board’s decision of February 11, 2015 (served February 19), instituting a proceeding to determine the railroad industry’s 2014

cost of capital — Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital — 2014* ("Ex Parte 558 Decision"). In my statement, I calculate the cost of debt for the railroad industry using the procedures accepted in previous STB proceedings. I also calculate the cost of common equity using a simple average of the estimates produced using the following methods: (1) the Capital Asset Pricing Model used by the Board in Ex Parte No. 558 (Sub-No. 17); and (2) the STB's version of the Morningstar/Ibbotson Multi-Stage Discounted Cash Flow Model as used by the Board in Ex Parte No. 558 (Sub-No. 17). In addition, I calculate a cost of preferred equity using the dividend yield method, as used in Ex Parte No. 558 (Sub-No. 17). Finally, I calculate the market value capital structure and the overall cost of capital using the procedures accepted in previous Cost of Capital proceedings. This statement presents the details for calculating the necessary components for the overall cost of capital calculation: the market value capital structure, the cost of debt, the cost of common equity capital using the Capital Asset Pricing Model and the Multi-Stage Discounted Cash Flow Model, and the cost of preferred equity capital.

I conclude that the 2014 cost of capital for the railroad industry is 10.65 percent. This estimate is based on a current cost of debt of 3.58 percent, a cost of common equity capital of 12.06 percent; a cost of preferred equity of 3.69 percent; and market value weights for debt, common equity, and preferred equity of 16.662 percent, 83.335 percent, and 0.003 percent, respectively.

II. Determining the Cost of Capital

A. Defining the Cost of Capital

The cost of capital for a firm is the minimum rate of return on investment that the providers of capital require as a condition for making an investment in the firm. In essence, it is the threshold rate of return on investment that makes investment in the firm attractive. The cost of capital necessarily incorporates long-term investor expectations for a company's performance. Investment funds flow to companies where the expected returns, over the investors' investment horizons, are thought to at least equal the expected returns available from other investment opportunities, giving consideration to the relative (or commensurate) risk of investment. Similarly within a company, limited capital resources flow to projects where the expected returns are expected to be highest, giving consideration to the relative (or commensurate) risk of investment. Methods used to estimate the cost of capital therefore attempt to measure investor expectations. For some types of capital, such as traded bonds, investor expectations can be readily observed. For other types of capital, such as common equity, modeling is necessary.

B. The Composite Railroad Approach

The STB has adopted a composite railroad approach to computing an industry-wide cost of capital. This approach relies upon data from a sample of railroads meeting criteria established by the Board's predecessor, the Interstate Commerce Commission, in Ex Parte No. 458, *Railroad Cost of Capital — 1984*, 1 I.C.C. 2d 989, 1003–1004 (1985).

C. Selection of Railroads for Analysis

Under the criteria established by the Board for individual firm inclusion in the composite railroad sample, a company must meet certain criteria. (Ex Parte 558 Sub-No. 18 Decision) Those criteria are:

- The company is a Class I line-haul railroad.
- If the Class I railroad is controlled by another company, the controlling company is primarily a railroad company (at least 50 percent of its total assets are devoted to railroad operations), and it is not already included in the study frame.
- The company's bonds are rated at least BBB by Standard & Poor's and Baa by Moody's.
- The company's stock is listed on either the New York or the American Stock Exchange.
- The company has paid dividends throughout the year (2014).

Table 1 (below) lists the AAR's evaluation of railroad companies that may meet the STB's criteria.

Table No. 1
Evaluation of Class I Railroads
Under Surface Transportation Board Selection Criteria
2014

Class I Railroad	Parent	Stock Symbol	Listed NYSE/ASE	Dividends Throughout 2014	Rail Assets	
					Account For At Least 50% of Parent	Adequate Debt Rating
BNSF	Berkshire Hathaway	BRK.A	Yes	No	No	Yes
CSX	CSX Corporation	CSX	Yes	Yes	Yes	Yes
CNGT*	Canadian National Railway Co.	CNI	Yes	---	Non-U.S. company	---
KCS	Kansas City Southern	KSU	Yes	Yes	Yes	Yes
NS	Norfolk Southern Corporation	NSC	Yes	Yes	Yes	Yes
CPSL*	Canadian Pacific Railway Ltd.	CP	Yes	---	Non-U.S. company	---
UP	Union Pacific Corporation	UNP	Yes	Yes	Yes	Yes

* CNGT is Grand Trunk Corporation, and consists of almost all of the U.S. railroad operations of Canadian National Railway (a.k.a. CN). CPSL is Soo Line Corporation, and consists of the U.S. operations of Canadian Pacific (CP). Following STB precedent, CN and Canadian Pacific were not included in the sample because both CN and Canadian Pacific are Canadian corporations – and the cost of capital proceeding is concerned with determining costs for U.S. railroads under STB jurisdiction.

This year there are four railroad corporations or holding companies in the sample meeting the Board’s criteria: CSX Corporation, Kansas City Southern, Norfolk Southern Corporation, and Union Pacific Corporation. These are the same railroad companies included in the 2013 sample. Consistent with past proceedings, the two Canadian-owned railroads have been excluded from the sample.¹ Berkshire Hathaway, owner of BNSF Railway Company, did not pay dividends throughout 2014, and the railroad is less than 50% of the company’s assets.

Table 2 contains operating revenue and asset figures from the 2014 Annual Report Form R-1 submitted by each Class I railroad to the STB at the end of March 2015. This table shows that, based on data for 2014, the four-firm composite accounts for 63 percent of the operating revenues and 62 percent of the assets of all Class I railroads.

Table No. 2
Relative Size of the Railroad Composite Sample
Year 2014

Railroad	Revenue (\$000)	Assets (\$000)	Pct of Total Class I RR	
			Revenue	Assets
CSX	\$12,342,404	\$31,106,151	15.9 %	14.8 %
KCS	1,359,384	4,964,300	1.8	2.4
NS	11,624,231	40,700,957	15.0	19.4
UP	23,975,236	53,526,176	30.9	25.5
Total	\$49,301,255	\$130,297,584	63.5	62.0
Total Class I	\$77,658,866	\$210,007,968	100.0 %	100.0 %

¹ See STB Ex Parte No. 558, decided July 2, 1997, page 2, and verified statement of Craig F. Rockey on behalf of the Association of American Railroads in Ex Parte No. 558, submitted March 19, 1997, Table 1 on page 6. Accounting methods, differences in the treatment of taxes, and currency conversion could also be issues if foreign companies were added to the composite railroad. The railroad parents (CN and Canadian Pacific) are still more Canadian than USA. Comparing operating revenues for 2013 as reported in the AAR’s *Railroad Facts* book, 2014 edition: CNGT was 32 percent of CN, and SOO was 29 percent of Canadian Pacific.

D. Types of Railroad Capital

The total capital of a firm may include various forms of debt and two types of equity; common stock and preferred stock. Each of these three sources of capital has different expected rates of return (reflecting different levels of perceived risk), and the overall cost of capital is calculated as the market value weighted average of the costs of common equity, preferred equity, and debt. Different approaches are used to estimate the costs of each of the types of capital. In this statement, 99 percent of the cost of debt is calculated using bonds and similar instruments (including notes and debentures). The remaining 1 percent – in the form of Equipment Trust Certificates – is calculated with a long-used model that utilizes market-determined yields for government debt, and the historical relationship between government debt and the type of railroad debt modeled.² No Conditional Sales Agreements were used to calculate the 2014 cost of debt because they have all been retired. The estimate of the cost of common equity is a simple average of the results from two estimation methods. One method is calculated using the Capital Asset Pricing Model (CAPM) following the methodology prescribed by the Board in the 2013 Cost of Capital decision. The other method is calculated using the Multi-Stage Discounted Cash Flow model methodology prescribed by the Board in the 2013 Cost of Capital Decision. The cost of preferred equity capital has been calculated using a simple dividend yield method, as used in the 2013 Cost of Capital Decision. Calculations for all three types of capital are based on data through 2014. The industry's overall cost of capital is computed as a weighted average of the three costs — debt, common equity, and preferred equity — based upon the market value for each type of capital.

² There are currently three Equipment Trust Certificates modeled.

III. Debt Capital in 2014

The current cost of debt is determined from the current market-determined yields on all debt outstanding. This approach is necessary, and in past Board Cost of Capital decisions has been accepted as appropriate, because of the reasons listed below.³

- (1) There is a lack of sufficient new issues from which to develop a representative current cost.
- (2) The stated rate of interest/dividend payment to the investor is not always the same as the cost to the railroad. For example, when securities are issued, the exact total amount paid by investors is seldom received by the railroad. Administrative fees, such as compensation paid to investment bankers, reduce the proceeds to the railroad. The effect of this is to increase the cost of the securities to the railroad.
- (3) The maturity mix and the type of security (equipment trust certificates, conditional sales agreements, long-term debt) of new security issues may be different from the average of existing securities. Because of the effect that length of maturity and type of security has on its current cost, the use of only new issues would not accurately measure the current cost.
- (4) The quantity and quality of existing debt has an impact on the yield of new issues.

A. Bonds, Notes and Debentures

As in previous Cost of Capital determinations, calculations relating to the bond market value use market data for the composite railroad whenever possible, and

³ See Ex Parte Nos. 415, 436, 452, 458, 464, 466, 473, 478, 486, 491, 506, 513, 518, 523, 523 (Sub-No. 1), 588, and 588 (Sub-No. 1) through (Sub-No. 17).

calculations for the cost of bond debt rely entirely on market data.⁴ Multiple sources for market data are available, and each source has its own criteria for including a financial instrument in its database. However, no market data will be available in any database for bonds that do not trade.⁵ For 2014, yields and prices of the sample railroads' bonds, notes and debentures were obtained from Bloomberg.⁶ This source is the same source used since the 2011 cost of capital determination, and we were able to find data for 87 unique bond identifiers. The 87 bond identifiers accounted for 84 bonds, representing 98 percent of the book value of all railroad bonds belonging to the composite railroad.⁷ The bonds not included are those that are either not in Bloomberg's database, or were in the database but did not trade.

1. Market Value of Bonds, Notes, and Debentures

The average market value for traded bonds, notes, and debentures is calculated using the methodology employed in previous Cost of Capital proceedings. For each of 87 traded CUSIPs in 2014, an average price is calculated based on the simple average of monthly prices. The prices represent what the investor is willing to pay for the bond given its coupon rate and maturity date. The market value is the average market price (stated as a price per hundred dollars of principal) times the amount of debt outstanding as of

⁴ The terms "bonds" and "bonds, notes, and debentures" are used interchangeably herein.

⁵ In some cases, a comparable bond method could be used, where yields for traded bonds could be used for non-traded bonds with similar qualities (maturity date and type of instrument), enabling the calculation of a probable market price. Another approach would be to construct a yield curve for a railroad. We have not recommended these approaches because the supply of bonds with market data is adequate.

⁶ Bloomberg's product is called Bloomberg Professional, and it is available as a subscription service. <http://www.bloomberg.com/professional/>

⁷ The 84 bonds are represented by 87 unique CUSIPs (a 9-character identification code). In a few cases, a single series of bonds has been assigned two CUSIPs because a privately-placed portion trades *among* qualified institutional buyers instead of *through an exchange*.

December 31, 2014.⁸ Where market prices are not available (i.e., for instruments that did not trade or were not found in the Bloomberg database), the “face value” of the bond is assumed to be the price investors would pay. This assumption may slightly overstate the market value of some issues and understate the value of others, depending upon the relationship of the instruments’ coupon rate and the current market rate. However, this possible variation is not likely to significantly affect the overall estimate of the cost of debt capital, since the differences are likely to be both small and offsetting, and since 98 percent of the book value of bonds is priced at market. Table 3 summarizes the results of the market value calculations for 2014. The market value for bonds, notes, and debentures that traded is \$30.55 billion, which is 98 percent of the total market value of \$31.15 billion.⁹

Table No. 3
Bonds, Notes and Debentures
Average Market Value

Railroad Co.	Traded Value (\$000)	Non-Traded Value (\$000)	Total Value (\$000)	Weight Based on Traded
CSX	\$9,877,407	\$256,461	\$10,133,869	32.33 %
KSU	\$1,315,871	\$225,133	1,541,004	4.31
NSC	\$10,528,167	\$84,903	10,613,070	34.45 *
UNP	\$8,833,449	\$30,776	8,864,225	28.91
Total	\$30,554,894	\$597,273	\$31,152,168	100.00 %
<small>* The traded weight for NSC, 34.456566%, was rounded down instead of up to force the total to be exactly 100.00%.</small>				
Prior Year	\$25,363,717	\$1,398,282	\$26,761,999	
Change	20.5%	-57.3%	16.4%	

Total market value for bonds is up 16.4 percent from the previous year. Among the causes of this increase are new debt offerings outpacing retirements, as book values of bonds are higher for 3 of the 4 railroads. In addition, the new bonds for 2013 are no longer

⁸ Securities that were newly issued during the year were prorated by the ratio of the number of months outstanding (rounded to the nearest half month) to the twelve-month year, as done in past proceedings.

⁹ Market value and book value for traded bonds both rounded to 98 percent.

prorated, which adds to the total market value. A billion dollars of the bonds issued in 2014 were announced in January, meaning over 95 percent of their market value is included in the total after prorating.

Appendix A lists details for each of 87 unique CUSIP numbers for bonds, notes, and debentures belonging to the composite railroad – and having trading data available for 2014 in the Bloomberg database.¹⁰ In a few cases, a single series of bonds has been assigned two CUSIPs because a privately-placed portion trades among qualified institutional buyers instead of through an exchange, as allowed under the Securities and Exchange Commission’s Rule 144A. All instruments are summarized for each sample railroad in the front of the Appendix. Book values for non-traded debt are also listed.

2. Current Cost of Bonds, Notes, and Debentures

Table 4 summarizes the yield or cost of each railroad’s debt (bonds, notes, and debentures), which, when weighted by the market value of the traded debt (as shown in Table 3), determines the sample composite cost of bonds, notes and debentures. The weighted average is 3.509 percent, which is 0.111 percentage points lower than 2013’s figure of 3.620 percent.

¹⁰ A CUSIP number is a 9-character identification code used to identify a security. CUSIP is an abbreviation for Committee on Uniform Securities Identification Procedures.

Table No. 4
Bonds, Notes and Debentures
Weighted Current Cost

Railroad Co.	Weight	Current Cost
CSX	32.33 %	3.659 %
KSU	4.31	3.128
NSC	34.45	3.514
UNP	28.91	3.392
Total	100.00 %	3.509 %

As noted earlier, the current cost for bonds, notes, and debentures is based on traded instruments issued by the sample railroads. Appendix A contains the average yield for each of the 87 unique CUSIP securities that traded according to Bloomberg’s database. The average yield for each security is a simple average of the twelve month-end yields. The traded portion of Appendix A summarizes the yield, or cost of each railroad’s debt, which, when weighted by the market value of the traded debt, determines the sample composite cost of bonds, notes and debentures of 3.509 percent. The weights used in Table 4, as derived from the calculations in Table 3, are also based on the traded portion of bonds, notes and debentures listed in Appendix A.

B. Equipment Trust Certificates

Equipment Trust Certificates (ETCs) are debt obligations that are secured by the particular equipment which is acquired with the instrument’s proceeds. In the event of default, creditors may repossess and resell or lease the equipment to pay off the debt obligations. This type of security has declined in popularity. In the 1990 cost of capital determination, ETCs accounted for 17.7 percent of the market value of debt.¹¹ For 2014,

¹¹ See verified statement of David F. Miller on behalf of the Association of American Railroads in Ex Parte No. 491, submitted February 15, 1991, Appendix I.

this percentage is 1.3 percent. Because entire ETCs are not actively traded in secondary markets, it is necessary to determine their cost by examining the return on other debt securities that are actively traded.

An ETC is generally serially issued. As such, each year during its life an equal amount (typically 1/15th) of the original amount must be retired. Consequently, an ETC may be thought of as a series of individual, annually-retiring bonds. In fact, when ETCs are issued, each of the maturities is sold independently from the others. A serially issued debt instrument provides an investor with the ability to purchase only the maturities that interest him. To correctly compute the composite yield on a serially issued bond, the internal rate of return on the bond's principal and interest payments must be calculated.

To compare ETCs to other debt instruments, the yields to maturity (as detailed in Appendix B) for government bills, notes, and bonds having the same range of maturities as current ETCs were obtained from Federal Reserve data. The yield curve for these government securities (also in Appendix B) shows the relationship between the current costs, or yields to maturity, and maturity dates for government bonds (which, unlike ETCs, are actively traded in secondary markets).

These yield data have been adjusted by the Federal Reserve Board to reflect constant maturities, such that the data accurately reflect the 2014 relationships between yields and maturities. After determining the yields to maturity for government bonds of maturities similar to those of an ETC, those yields are adjusted to reflect the risk associated with the ETCs as compared to government bonds. This adjustment is the risk premium for railroad ETCs, which is the spread between ETCs and government securities.

In 2007 and 2009, the railroads issued new ETCs with interest rate spreads above government bonds of 125 and 80 basis points, respectively. In 2014, another new ETC was issued by a railroad, and its interest rate spread was 76 basis points – not far from the previous spread calculated for 2009.¹² Because the 2014 ETC is the most current measure of the relationship between ETCs and government securities, its 76 basis point spread is used herein as the interest rate spread (the risk premium) above government bonds. Table 5 lists sixteen years of risk premiums for ETCs used in cost of capital proceedings, plus the proposed premium for 2014.

Table No. 5
History of Premiums for
Equipment Trust Certificates (ETC)

Data Year	Proceeding	Basis Points
1998	Ex Parte No. 558 (Sub-No. 2)	84
1999	Ex Parte No. 558 (Sub-No. 3)	87
2000	Ex Parte No. 558 (Sub-No. 4)	171
2001	Ex Parte No. 558 (Sub-No. 5)	114
2002	Ex Parte No. 558 (Sub-No. 6)	114
2003	Ex Parte No. 558 (Sub-No. 7)	114
2004	Ex Parte No. 558 (Sub-No. 8)	114
2005	Ex Parte No. 558 (Sub-No. 9)	114
2006	Ex Parte No. 558 (Sub-No. 10)	114
2007	Ex Parte No. 558 (Sub-No. 11)	125
2008	Ex Parte No. 558 (Sub-No. 12)	125
2009	Ex Parte No. 558 (Sub-No. 13)	80
2010	Ex Parte No. 558 (Sub-No. 14)	80
2011	Ex Parte No. 558 (Sub-No. 15)	80
2012	Ex Parte No. 558 (Sub-No. 16)	80
2013	Ex Parte No. 558 (Sub-No. 17)	80
2014	Proposed for EP 558 (Sub-No. 18)	76

¹² The 76 basis point spread was calculated using the same method as that used for 2009, and calculations are included in my work papers.

The methodology used to determine the cost of ETC debt is the same as the method employed and approved in previous proceedings. Risk-adjusted yields provide the basis to value each ETC. Using formulae suggested by *Standard Security Calculation Methods*, the market value of each maturity comprising an ETC is determined. In effect, these formulae make it possible to determine the price investors would pay in 2014 for the contractual interest payments and price appreciation for holding the instrument. It is the most accurate way to compute the current cost of ETCs to the firm for the defined period. Computing the internal rate of return of the ETC prices and their associated cash flow streams establish the current cost for ETCs. The weighted-average cost for all modeled Equipment Trust Certificates (now only 3) is shown in Table 6.¹³

¹³The formulae used to value these bonds are standards of the security industry. They are:

For bonds with less than six months to maturity:

$$DP = \left[\frac{100 + C/2}{1 + DY/360} \right] - \left[C/2 \frac{(180 - D)}{180} \right]$$

For bonds with six months or longer to maturity:

$$DP = \left[\frac{100}{(1 + Y/2)_{\text{EXP}}(N - 1 + D/180)} \right] + \left[\sum_{k=1}^N \frac{C/2}{(1 + Y/2)_{\text{EXP}}(K - 1 + D/180)} \right] - \left[C/2 \frac{(180 - D)}{180} \right]$$

Where: DP = Dollar price of the bond
 C = Coupon rate as a percent per year
 D = Number of days from settlement date to coupon date
 Y = Yield to maturity as a decimal per year
 EXP = Raise the term on the left to the power indicated by the term on the right
 N = Whole number of coupons payable plus 13
 K = Compute for K, values 1 to N and sum the results

Table No. 6
Summary of Equipment Trust Certificates Modeled for 2014
(\$000)

Railroad	Amount Outstanding			Yield	Current Market Value	Current Interest Amount	No. ETC
	Beg.	Ending	Average				
CSX	\$0	\$0	\$0	--	\$0	\$0	0
KCS	0	0	0	--	0	0	0
NS	0	0	0	--	0	0	0
UP	610,282	597,244	603,763	3.244%	434,830	14,106	3
Total	\$610,282	\$597,244	\$603,763	3.244%	\$434,830	\$14,106	3

Weighing each railroad’s yield, by its current market value for modeled ETCs, results in a current cost of 3.244 percent. The average rate is higher than the 2.782 percent found for 2013. This was caused by two factors. First, most of the yield curve for government securities is higher in 2014 than 2013 (see Appendix B). Second, all but 2 of the ETC’s in last year’s calculation are either current or retired – and the remaining ETCs are all “higher” (to the right) on the yield curve than those retired. In addition, the new ETC is “far to the right” on the yield curve, meaning it will have a higher interest rate than instruments close to maturity when the yield curve is conventionally shaped. With a higher yield curve, and a group of instruments that averages higher (to the right) on the yield curve, one would expect the higher average yield. A summary of each railroad’s modeled ETCs can be found in Appendix C, which includes a market value and a current yield. The large difference in yields for the first ETC compared to the other two (Appendix C, page 7) is caused by the big difference in their maturity dates – they have different places on an upward sloping yield curve. Appendix C also lists ETCs that were not modeled (and those current, which are not used). ETCs can fail to be modeled for two reasons: (1) the ETC instrument does not have all of the characteristics typical of an ETC; or (2) the ETC has a

floating rate (instead of fixed) making its rate for a particular future year uncertain. The market value of all modeled ETCs is \$434.8 million. Following STB procedure, the new ETC has been prorated by the ratio of the number of months outstanding (rounded to the nearest half month) to the twelve-month year. There were no non-modeled ETCs this year.

C. Conditional Sales Agreements

Conditional Sales Agreements (CSAs) are another form of railroad financing that is treated by investors as debt securities, because their interest obligations are essentially the same as interest obligations on ETCs. Like ETCs, CSAs are not generally traded in secondary markets. Accordingly, as in prior proceedings, their current cost can be determined from current yields on government bonds in a similar manner to ETCs, using a 1997 relationship between CSAs and ETCs to determine the yield spread over government bonds. However, no CSAs were outstanding in 2014 – so none were modeled and none were added to Miscellaneous Debt. There is no appendix for CSAs.

D. All Other Debt

Capital leases and miscellaneous debt such as commercial paper, demand deposits, and other instruments with relatively small amounts outstanding are listed as All Other Debt. To comply with past decisions of the Board, non-modeled Equipment Trust Certificates and Conditional Sales Agreements (if there had been some) have been listed in this category. Capital leases account for most of the All Other Debt category.

Capital leases are contracts between two parties and as such take many forms.¹⁴ Since capital leases are not traded in the marketplace, their current cost is not directly

¹⁴ See generally 49 C.F.R. 1201, 2–20 for definitions.

observable. The lack of complete information with respect to leases necessitates that many assumptions be made to estimate their current cost and their values. For market value purposes, capital leases are included at book value. Given the large number of these leases and the significant differences among their terms, this is the only practical option available. Because the cost of capital calculation assigns this debt a cost based on traded or modeled securities (bonds, notes, debentures, ETCs and CSAs) that typically have a lower cost, the cost used for capital leases will be somewhat understated.

Miscellaneous debt, such as commercial paper, demand deposits, and various instruments with extremely small amounts outstanding are also excluded from the current cost computations. The book value (assumed market value) of capital leases and miscellaneous debt is \$1,684.2 million; as a percent of the total market value of debt of the composite railroad, it is 5.1 percent. (More detail on Miscellaneous Debt can be found in the Debt Reconciliation portion of my work papers.) This treatment of All Other Debt is the same approach used in the previous cost of capital proceeding.¹⁵

E. Market Value of Debt

Table 7 summarizes the total market value for each debt category. The total market value for traded and non-traded debt is \$33,271.1 million. Bonds, Notes, and Debentures (Bonds) account for almost 94 percent of the total market value. As can be computed from Appendix D, 98 percent of the Bonds' market value is determined by the results of trading throughout the year, while the remaining portion is based upon the book value of non-traded bonds.

¹⁵ Non-modeled ETCs and/or CSAs would have been included in the All Other category if there had been any.

Table No. 7
Market Value of Debt (\$000)

Type of Debt	Market Value	Percent of Total	Subtotal
Bonds, Notes & Debentures	\$31,152,168	93.63 %	98.62 %
Equipment Trust Certificates	434,830	1.31	1.38
Conditional Sales Agreements	0	0.00	0.00
Subtotal	31,586,998	94.94	100.00 %
All Other Debt*	1,684,150	5.06	
Total	\$33,271,148	100.00 %	

* If any ETCs or CSAs are not modeled, they are included in All Other Debt.

Current costs can be determined for three of the four debt categories — Bonds, Equipment Trust Certificates, and Conditional Sales Agreements (if there were any). Therefore, in 2014, the weighted average cost of debt is based upon these three (of the four) debt categories (see subtotal column). The total market value of debt, used to determine the weight for debt in the overall cost of capital calculation, includes all four categories. The market value of debt, including traded and non-traded debt, is described in more detail in Appendix D.

F. Flotation Costs for Debt Capital

The cost of issuing new debt generally has two portions. First, when new debt is issued by a negotiated offering or a competitive bid, the issuing firm pays a fee to the investment banking firm or firms handling the offer. These fees cover the banker’s administrative costs in handling the sale and profits. Second, the issuer incurs expenses such as legal, accounting, and printing. Those types of expenses are quantified in the Securities and Exchange Commission’s Form 424(b)(5) or 424(b)(2), as are the investment banker’s fee and other details of new debt offerings. Flotation costs generally vary by type of security. For ETCs and CSAs, the fees are extremely small, but costs increase as the

administrative burden and underwriting risk increase (i.e., in order of increasing cost — ETCs and CSAs, bonds and notes, convertible bonds, and preferred stock and common stock). As discussed below, flotation costs directly reduce the gross proceeds available to the issuing firm.

An example helps to illustrate how flotation costs permanently increase the cost of debt capital to the railroad. If a railroad sells a 10-year bond with an annual coupon of 15 percent and investors are willing to pay \$98 for each \$100 in face value, the effective yield on the bond is 15.40 percent. Because the investment banker requires compensation (flotation costs) for his work, the railroad does not receive the full \$98 from the investors. In addition, the railroad will have its own internal costs such as legal and accounting. If flotation costs reduce the net proceeds to say \$96, the effective cost to the railroad over the life of the bond is 15.82 percent. Therefore, flotation costs have increased the cost of debt from 15.40 to 15.82, or by 42 basis points. Proper accounting treatment requires the \$4 per \$100 ($\$100 - \96) to be amortized on a straight line basis over the life of the bond. In addition, the Uniform System of Accounts requires the annual amortization to be charged directly to Account No. 548, Amortization of Discount on Funded Debt, a fixed charge item. This results in fixed charges for the year totaling \$15.40 ($\15.00 coupon payment + amortization of $\$0.20$ discount + $\$0.20$ flotation costs). It is important to note that these flotation costs are not recovered through operating costs but are fixed charges each year during the life of the bond. Also, it is evident that in order to reflect the total current cost of debt, flotation costs must be included.

Any firm requires the opportunity to cover flotation costs before it will have an incentive to make future capital expenditures. Before creditors will lend their funds, they

must be assured that the railroad will have the opportunity to earn returns sufficient to cover all costs.

Using the same methodology used since 2008, I calculated 2014 flotation costs for bonds using publicly available data from electronic filings with the Securities and Exchange Commission (SEC).¹⁶ The filing types are “Prospectus Rule 424(b)(2)” and “Prospectus Rule 424(b)(5)”. In addition to standard bond information such as coupon and maturity date, these filings also provide the price to investors, underwriter’s fee, and railroad expenses excluding the underwriter’s fee. I have calculated a yield based on the price to investors and a yield that also included flotation costs. The difference between the two yields is the flotation cost expressed in percentage points. For 2014, seven new issues were reported in three (some filings reported multiple issues) filings.¹⁷ A simple average of the seven flotation costs is 0.075 points, not much different from the 0.068 percentage points used by the Board for 2013. Page 1 of Appendix E contains a table with input data and calculations. Pages 2 and 3 of the same appendix contain, as an example, the pages from the SEC filing that were used as a source for one of the filings. The source filings for all of the new bond issues have been included in my work papers. I believe the seven new railroad debt issues provide the best information to determine flotation costs for 2014, and I have therefore used 0.075 percentage points for the flotation costs for bonds.

¹⁶The SEC’s EDGAR (Electronic Data Gathering, Analysis, and Retrieval) system is available on the internet at the following address: <http://www.sec.gov/edgar.shtml>.

¹⁷ Debt exchanges were not used.

The Securities and Exchange Commission (SEC) conducted a study of flotation costs using railroad ETC data for the years 1951, 1952 and 1955.¹⁸ In that study, the SEC determined that ETC flotation costs averaged 0.89 percent of gross proceeds.

I have calculated flotation costs for ETCs using the same methodology used in the previous Cost of Capital decision, although it has some flaws. See my testimony for 2012 for a discussion of the incorrect assumption used with the current method. Because ETCs are such a small portion of total debt, this flawed method for estimating flotation costs for ETCs does not affect the cost of debt, so I have not expended resources with an alternative method. Table 8 below calculates flotation costs for ETCs using the flotation percent of gross proceeds discussed above. No flotation costs have been calculated for CSAs, as none have been modeled. Current average yields on railroad ETCs are assumed to be equal to the yield resulting from the price to investors for a new issue (a flawed assumption because the current yields and new issues are on different places in the yield curve). Coupons are assumed to be paid twice per year. The duration for new ETCs is assumed to be 15 years. Given the input data, effective yields can be calculated, and the difference between the yields excluding flotation costs and the yields including flotation costs are the flotation costs measured in percentage points. The results are flotation costs for ETCs of 0.076 percentage points – close to the 0.073 used for 2013.

¹⁸ *Cost of Flotation of Corporate Securities 1951-1955*, Securities and Exchange Commission, June 1957.

Table No. 8
Flotation Costs for
Equipment Trust Certificates

Given	ETC
Flotation Costs as Pct of Gross Proceeds	0.890%
Avg. Railroad Yields (Table 6)	3.244%
Assumed Duration of New Instrument (Yrs)	15
Calculated	
Price After Flotation Costs	\$99.11
Effective Yield Including Flotation Costs	3.320%
Difference Between Yields With and Without Flotation Costs =	
Flotation Cost as Percentage Points	0.076%

To compute the overall effect of flotation cost on debt, the market value weight of the debt outstanding is multiplied by the respective flotation cost. The weights for each type of debt are based on market values for debt (excluding All Other Debt), as found in the Percent of Subtotal column in Table 7. All Other Debt is excluded from the weight calculation, since a current cost of debt for that category has not been determined. As shown in Table 9, flotation costs increase the cost of debt by 0.075 percentage points.

Table No. 9
Flotation Costs For Debt

Type of Debt	Market Weight	Flotation Cost
Bonds, Notes & Debentures	98.62%	0.075%
Equipment Trust Certificates	1.38%	0.076%
Conditional Sales Agreements	0.00%	not calculated
Total	100.00%	0.075%

This flotation cost for 2014 is higher than the Board's 0.068 percentage points calculated in its 2013 Cost of Capital decision, and closer to the 0.072 percentage points

found for 2010. Since bonds account for almost all of the market value of debt – flotation costs for bonds, and flotation costs for debt, round to the same number.

G. Conclusion as to the Cost of Debt Capital

To determine the overall composite current cost of debt, the current cost of each of three categories of debt (Bonds, ETCs and CSAs) is multiplied by its market value proportion. Market values are properly used in this connection, because they represent the amounts on which the current cost must be paid. Table 10 shows the results of this calculation.

**Table No. 10
Composite Current Cost Of Debt**

Type of Debt	Market Weight	Current Cost
Bonds, Notes & Debentures	98.62%	3.509%
Equipment Trust Certificates	1.38%	3.244%
Conditional Sales Agreements	0.00%	--
Subtotal	100.00%	3.505%
Flotation Costs		0.075%
Weighted Cost of Debt		3.580%
Weighted Cost of Debt (Rounded)		3.58%

The current weighted cost of debt before flotation costs is 3.505 percent. The addition of flotation costs results in a rounded cost of debt of 3.58 percent. This cost of debt is the second-lowest calculation ever, higher than the 2012 record low of 3.29 percent

and below the 3.68 percent calculated for 2013.¹⁹ Additional details for the 2014 calculation of the overall cost of debt are provided in Appendix F.

IV. Common Equity Capital In 2014

A. The Market Value of Common Equity Capital

The market value of common equity is based on stock prices and shares outstanding for 2014. Table 11 below summarizes the market value calculation. The Weight column, which is not used directly in our calculation, is provided as additional information.

Table No. 11
Average Market Value
For Common Equity in 2014

Railroad Co.	Value (\$000)	Weight %
CSX	30,985,885.4	18.620
KSU	12,134,101.2	7.292
NSC	31,589,673.6	18.983
UNP	91,699,152.1	55.105
Total	\$166,408,812.3	100.000 %
Prior Year	\$132,061,868.5	
Change	26.0%	

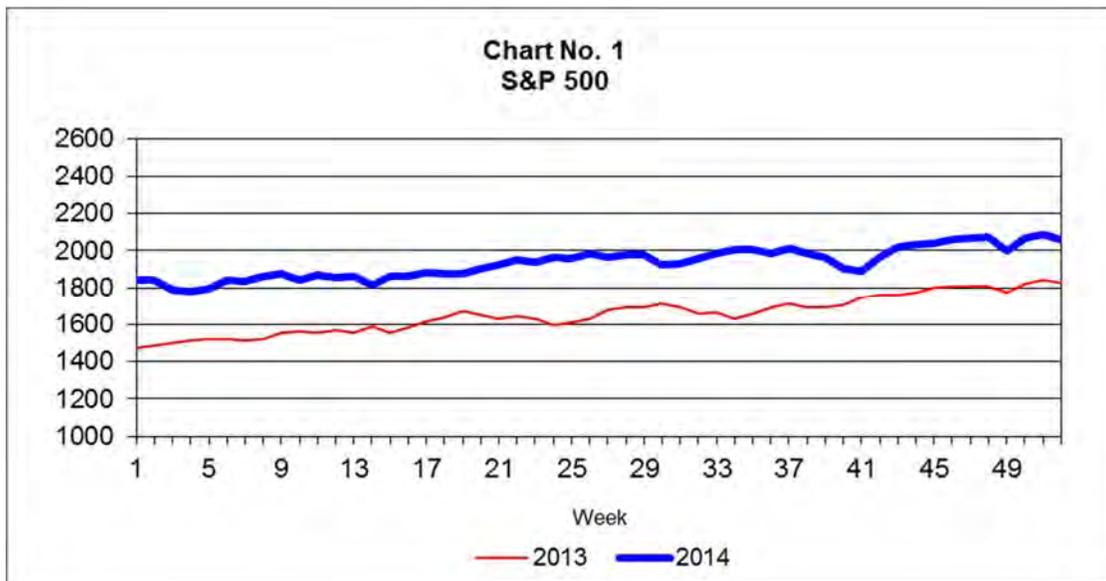
Details of the calculation are presented in Appendix G. Weekly market values were calculated for each railroad using shares outstanding data from railroad 10-Q and 10-K reports multiplied by stock prices at the close of each week in 2014.²⁰ Calculations for 2014 included 52 weeks. Week 1 began on Monday January 6, 2014, and is the first week

¹⁹The AAR's *Railroad Facts* book lists the cost of debt decided by the Board, and its predecessor. The 2013 edition contains, on page 19, data from 1978 through 2012. The 2014 edition contains, on page 20, data from 1980 through 2013.

²⁰The 10-Q and 10-K reports are filed with the U.S. Securities and Exchange Commission (SEC), and are available from railroad web sites or the SEC web site.

after 2013's week 53 used in last year's calculation.²¹ The week beginning Monday December 29, 2014, qualifies as the final week for 2014. Thus, 2014 is a 52-week year for the purpose of calculating the market value of common equity (and for the regression data set used by this year's Capital Asset Pricing Model).

The 52-week average market capitalization of the composite railroad (the four railroads that comprise the composite sample), listed on page 5 of Appendix G, is \$166.4 billion. This is a 26 percent increase from last year's average. The biggest year-over-year increases were during the fourth quarter. The stock market in general, as represented by the Standard & Poor's 500, followed a similar pattern (see Chart 1).



²¹ Week 53 for 2013 started Monday December 30, and is not considered by the Board as part of 2014 because it did not have 3 days of trading in 2014.

B. The Capital Asset Pricing Model (CAPM)

The cost of equity is a measure of investor expectations, including the opportunity cost of investing in a share of a firm's stock; i.e., the expected rate of return that investors require on the market value (purchase price) of the stock in light of alternative investment opportunities of comparable risk. Because investor expectations are not directly observable, analysts have developed methods of inferring the cost of equity from available financial data. There are several methods available to estimate the cost of equity. Two of these methods, the Capital Asset Pricing Model (CAPM) and a Multi-Stage Discounted Cash Flow Model (MSDCF) are used in this statement to compute an estimate for the cost of equity — in accordance with STB Ex Parte No. 558 (Sub No. 17). The CAPM is discussed herein, and the MSDCF is discussed in the next section.

The theory underlying the CAPM is that an investor seeks a risk-free return plus a premium that is dependent upon risk. In formulaic terms, the cost of equity as estimated by the CAPM may be expressed as:

$$K = RF + \text{Beta (MRP)}$$

Where K = the firm's cost of equity,

RF = the risk-free rate,

MRP = the market's risk premium, and

$Beta$ = the coefficient of systematic, non-diversifiable risk of the stock.

Therefore, each firm's cost of equity above the risk-free rate depends on the market risk premium adjusted for the non-diversifiable risk of its common stock, with the adjustment factor represented in the model as beta. The risk-free rate (RF) is typically

represented by the rate of a U.S. Government (Treasury) instrument. The market risk premium (MRP) is the expected future difference between returns for the overall stock market and risk-free returns. That expected difference is typically estimated using historical differences. Beta is the coefficient of systematic, non-diversifiable risk of the stock, which depends on its volatility and its correlation with the overall stock market. The beta for the overall stock market is 1.0. Firms with higher risk will have a beta above 1.0, while firms with lower risk will have a beta below 1.0. As with the market risk premium, betas are also typically estimated using historical relationships. The methodology used for the CAPM calculation — including details for using certain inputs — follows the methodology prescribed and used by the STB in the 2013 Cost of Capital decision.²²

1. Risk-Free Rate (RF)

In all decisions regarding the CAPM, the Board has specified a risk-free rate based on an average yield to maturity for a 20-year U.S. Treasury Bond. The average yield-to-maturities for U.S. Treasury Bonds are available from the Federal Reserve web site, and I have again utilized this resource to retrieve data for 2014.²³ A copy of the “download” from the Federal Reserve web site is included in my work papers. Table 12 (next page) lists a 10-year history of this bond. Appendix H lists the same bond back to 1980 where available.

As can be seen in Table 12, 2014’s 3.07 percent average rate for 20-Year U.S. Treasury Bonds is a small decrease from 2013 rate of 3.12 percent. As can be seen in Appendix H, the 20-year rate for 2012 was the lowest rate in the Federal Reserve Board’s

²² Ex Parte No. 558 (Sub-No. 17), Railroad Cost of Capital – 2013, served July 31, 2014.

²³ Federal Reserve’s web site is <http://www.federalreserve.gov/releases/H15/data.htm>. Select Treasury Constant Maturities, Nominal, 20-year, Annual.

data set for 1993 through 2014, and the rate for 2014 is the second lowest. Both rates are lower than all years in an older data set with data for 1962 through 1986.²⁴ Like 2013, interest rates in general for 2014 were up by small amounts compared to the previous year (with the exception of 20 and 30-year bonds) – see Appendix B for a yield curve comparison. The Federal Reserve Board voted to end its bond-buying stimulus program in October 2014. Once interest rates become purely market-driven, we may see rates for 20-year bonds rise to pre-2007 levels.

Table No. 12
20-Year U.S. Treasury Bonds 2005 - 2014

Year	Average Annual Rate
2005	4.64 %
2006	5.00
2007	4.91
2008	4.36
2009	4.11
2010	4.03
2011	3.62
2012	2.54
2013	3.12
2014	3.07

Source: Federal Reserve

Using the average yield to maturity in 2014 for a 20-year U.S. Treasury Bond, as directed in STB Ex Parte No. 558 (Sub No. 18), the CAPM’s risk-free rate is 3.07 percent.

²⁴ Rates from the two data sets, which were downloaded from the Federal Reserve Board during January 2015, are listed in my work papers.

2. Market Risk Premium (MRP)

In previous decisions, the STB has required that the market risk premium (a.k.a. equity risk premium) calculation begin with year 1926, which is a standard approach. The Standard & Poor's 500 Index is to be used as the representative of the market — also a standard approach. The STB's decision also stated that the “data are also available from a variety of commercial vendors, including Ibbotson.”

In the 2006 through 2012 Cost of Capital determinations, the well-regarded and widely-accepted Ibbotson Equity Risk Premium has been used as found in the *Ibbotson SBBi Valuation Yearbook* published by Morningstar.²⁵ This premium is the long-horizon equity risk premium, using the S&P 500 and data beginning with 1926. Although Morningstar discontinued its *Ibbotson SBBi Valuation Yearbook*, it publishes the same long-horizon equity risk premium in the *Ibbotson SBBi Classic Yearbook*. The Equity Risk Premium used by the Board for 2013 was published on page 152 of the *Ibbotson SBBi 2014 Classic Yearbook* and Table 10 of the 2014 Ibbotson SBBi Market Report with data as of December 2013. For 2014, the *2015 Ibbotson SBBi Market Report with Data as of December 2014* lists a premium of 7.00 percent on page 16 in Table 10. This is a very small increase from the 6.96 percent figure used by the Board for 2013. (Appendix H shows Equity Risk Premiums since 1980.) Note that while the Equity Risk Premium has had a slight upward trend in the last few years, it is still lower than most premiums since 1980. Thus, I used 7.00 percent as the rate for the CAPM's market risk premium.

²⁵ Ibbotson Associates is a wholly-owned subsidiary of Morningstar, Inc. “SBBi” stands for “Stocks, Bonds, Bills, and Inflation.”

3. Beta

The STB Ex Parte No. 664 decision requires parties to calculate the CAPM's beta using a portfolio of weekly, merger-adjusted stock returns for the prior five years in the following equation:

$$R - SRRF = \text{Alpha} + \text{Beta} (RM - SRRF) + E$$

Where:

- R = merger-adjusted stock returns for the portfolio of railroads;²⁶
- SRRF = short-run risk-free rate represented by 3-mo. U.S. Treasury Bills;
- Alpha = constant term;
- Beta = coefficient of systematic, non-diversifiable risk;
- RM = return for the market, represented by the S&P 500; and
- E = random error term.

In its Railroad Cost of Capital – 2006 decision, the STB clarified its beta calculation methodology. The STB noted that “[t]he proper way to arrive at the weekly portfolio change is to calculate the weekly stock percentage change for each firm, weighted by that firm’s share of the industry as a whole.” The STB also determined that the Standard & Poor’s 500 Price Index, which is publicly available, should be used as a proxy for the Standard & Poor’s 500 Total Return Index, unless the Total Return Index is made available to the public.

Using the STB instructions, the value for beta can be solved for using a linear regression. The railroad portfolio return less the short-term risk free rate is the dependent variable, while the market return less the risk free rate is the independent variable. The

²⁶ Railroads must meet the screening criteria set forth in *Railroad Cost of Capital – 1984*.

regression's random error term is unknown, the intercept is the Alpha, and the coefficient for the explanatory variable is the beta.

The raw regression data set used in the AAR calculation is derived from publicly available data from web sites on the internet (for further information, see the work papers). As instructed, I have used weekly stock price data for the prior five years. The raw data consists of weekly observations from the last week of 2009 (Week 0) through the last week of 2014 (Week 260). Each week in the data set is identified by the first trading day of the week (typically Monday), but the prices are actually for the last day of trading in the week (typically Friday).²⁷ Week 1 in the regression data set is the week beginning Monday, January 4, 2010.²⁸ The last week of 2014, Week 260, began on Monday, December 29. This week had only 1 day of trading in 2015 – meaning that it did not meet the Board's "3 or more trading days" criterion to qualify as week 1 for 2015. Week 0 began in 2009 on Monday December 28, and it is *not* directly used in our regression for beta. The purpose of having a Week 0 is to be able to calculate the return for Week 1 and to have a weight for the beginning (instead of the end) of Week 1. This enables a Week 1 return to be included in the regression data set as clarified by the Board on page 7 of its 2008 cost of capital decision.²⁹

²⁷ In some cases, stock did not trade on Monday. For example, trading during Week 244 began Tuesday, September 2, 2014, because Monday, September 1, 2014 was the Labor Day holiday. There are also cases where the last trading day of the week was not Friday because of a holiday.

²⁸ Following the Board's clarification in Ex Parte No. 558 (Sub-No. 12), the week beginning January 4, 2010, is the first week in the relevant year that contains 3 or more trading days.

²⁹ Ex Parte No. 558 (Sub-No. 12), served September 25, 2009.

Three categories of data are necessary for the raw regression data set. First, weekly stock prices for CSX, KSU, NSC, and UNP are downloaded from a web site.³⁰ The price data were downloaded during the second week of 2015, and are included in my work papers.³¹ Stock prices adjusted for dividends and splits are used as the regression's dependent variable, while prices that are only adjusted for splits are used for weighting.³² (I have adjusted shares outstanding and stock prices for splits for easier comparison to the dividend-adjusted prices. However, original shares outstanding used with original prices will achieve the same results when used for weighting purposes.) The price index values for Standard & Poor's 500 Price Index were also downloaded from the same web site. The second category of data is shares outstanding. Stock shares outstanding, and an effective date, were gathered from each railroad's 10-Q and 10-K reports. The shares outstanding data were adjusted for stock splits, if necessary. For each railroad, a shares outstanding value is assigned to each week based upon the latest available 10-Q or 10-K submissions by that railroad to the Securities and Exchange Commission.³³ The final category of raw data is the rate for 3-Month U.S. Treasury Bills. These securities are also known as 13-Week Treasury Bills or 90-Day Treasury Bills. The Treasury Bill rates are acquired from the Federal Reserve web site, and the "download" is included in my work papers.

³⁰ CSX Corporation has a stock symbol of CSX, Kansas City Southern is KSU, Norfolk Southern Corporation is NSC, and Union Pacific Corporation is UNP.

³¹ The Yahoo! Finance web site was used. Go to <http://finance.yahoo.com/q/hp?s=CSX> to start with the first railroad (CSX). Select weekly data and a date range.

³² The dividend-adjusted values may differ for a given week if the data are downloaded at different times during the year, especially if dividends have been paid during the interim time. The difference typically affects the fourth digit after the decimal of the beta calculations.

³³ Shares outstanding are updated using the first Friday on (provided the stock traded that day), or after, the effective date listed in the 10-Q and 10-K reports – since Friday's (or the end of the week) stock price is used.

SAS statistical software was used to prepare the regression data set from the raw data.³⁴ The weekly stock percentage change for each railroad was calculated and weighted by that railroad's share of the industry as a whole to create a composite railroad return.³⁵ Weekly returns are also calculated for the Standard & Poor's 500 Price Index (the proxy for the market as a whole). Each week's three-month Treasury Bill rate, which is the measure employed for the short-run risk-free rate, is restated from an annual to a weekly rate to make it comparable to the weekly returns. The method used to convert to a weekly rate accounts for compounding. The weekly Treasury Bill rates are then deducted from the composite railroad portfolio returns and market returns as was done in the previous cost of capital submissions. The resulting regression data set has 260 observations (weeks 1 through 260), since week 0 of the raw data set was used only to calculate a weighted return for week 1.

The SAS General Linear Model procedure was used to calculate the regression, with composite railroad returns less the short-run risk-free rate as the dependent variable and the market returns less the short-run risk-free rate as the independent variable. As a check against our beta calculations, a spreadsheet has also been utilized to calculate the beta using a linear regression, and the results matched the SAS calculation. As specified by the STB decisions, the regression includes an intercept. Appendix I contains a summary of the regression using SAS. The entire SAS printout and a spreadsheet version are included in my work papers. The regression resulted in a beta estimate of 1.250269053, which rounds to 1.2503.

³⁴ SAS Institute Inc., Cary, NC.

³⁵ Since the weight needs to be the weight at the beginning of the week instead of the end of the week, data from the end of the previous period are used to represent the beginning of the current period.

The 2014 beta is between the 2012 and 2013 estimates, which were 1.1543 and 1.3499, respectively. As expected, the composite railroad beta continues to be above 1.0 when data from the Tech Stock Bubble are not part of the calculation.³⁶

Additional checks were performed on our beta calculation. A new spreadsheet data set was created using data downloaded in early April. (This can cause different adjusted values, often affecting the beta calculation at the third or fourth digit after the decimal.) The beta calculated in this second spreadsheet was 1.250257268, which rounds to 1.2503. This is very close to our calculation using data retrieved in January.

We have evaluated our beta calculation by (1) comparing it to previous years and expectations, and (2) comparing the results of two data sets created at different times. The resulting value of 1.2503 for beta, as calculated in our initial regression, is used as an input to the Capital Asset Pricing Model.

4. Cost of Equity Using the CAPM

A review of the Capital Asset Pricing Model (CAPM) is as follows:

$$K = RF + \text{Beta (MRP)}$$

Where K = the cost of equity for the portfolio of railroads,

RF = the risk-free rate,

MRP = the market's risk premium, and

Beta = coefficient of systematic, non-diversifiable risk.

³⁶ Beginning in the summer of 1996, technology-related stocks drove the S&P 500 index up over 100 percent by 2000. The index then fell over 40 percent by February 2003, and fell back to its level from 1997 – appearing graphically as a “bubble”. Railroad stocks did not have the same growth and decline in their values.

Our CAPM used the methodology used by the STB in the previous cost of capital determination, Ex Parte No. 558 (Sub-No. 17). Table 13 is a summary of our CAPM cost of common equity calculation, which resulted in an average 2014 cost of equity estimate for the composite railroad of 11.82 percent.

Table No. 13
Cost of of Common Equity
Using STB's Capital Asset Pricing Model

<i>Inputs to Model</i>		
Risk-Free Rate	3.07 %	From Table No. 13
Market Risk Premium	7.00 %	From SBBI MR, Table 10
Beta	1.2503	From Appendix I
<i>Calculation</i>		
Risk-Free Rate	3.07 %	Given
Plus: Beta Adjusted Risk Premium	8.75 %	Beta x Mkt. Risk Prem.
CAPM Cost of Equity	11.82 %	Risk-Free Rate + Prem.

C. The Multi-Stage Discounted Cash Flow Model

As stated earlier, there are several methods available to estimate the cost of equity. The Multi-Stage Discounted Cash Flow Model (MSDCF) is another model available. Using this model, the cost of equity is the discount rate that equates a firm’s market value to the present value of the expected stream of free cash flow that is potentially available for distribution to equity investors. The multiple stage portion of the model accounts for the assumption that the firm will not experience a constant growth rate throughout its life. The STB, in Ex Parte No. 664 (Sub No. 1), adopted the Morningstar/Ibbotson MSDCF model to use for estimating the cost of common equity capital.³⁷ This model assumes that not all

³⁷The Morningstar/Ibbotson MSDCF model adopted by the Board in Ex Parte No. 664 (Sub-No.1) is a modified version that includes only the railroads that pass the screening criteria set forth in Railroad Cost of Capital – 1984, 1 I.C.C. 2d 989 (1985), for inclusion in the sample of railroads used for the annual cost of capital

investor cash flows have to be in the form of dividends. Instead, investors benefit from regular dividends, special dividends, stock buybacks, or stock price appreciation. Major inputs to the model include cash flows, expected growth rates, and market values. An equation for this model can be found in Appendix J. A firm's present value as determined by the market is therefore equal to the sum of the present value of three sets of cash flows. This is the same formula that appeared in the Appendix to the Board's decision in Ex Parte No. 664 (Sub-No.1) served August 11, 2008, and it is the same formula found in the AAR's submissions for the 2008 through 2013 cost of capital.

1. Cash Flows

The Morningstar/Ibbotson MSDCF model uses an initial cash flow and a terminal cash flow as inputs. The initial cash flow is defined as income before extraordinary items minus capital expenditures plus depreciation plus deferred taxes. Income before extraordinary items (IBEI) is derived by deducting extraordinary items from net income. Thus, the model's formula for cash flows is as follows:

$$CF = (NI - EI) - CAPEX + DEP + DT$$

Where CF = cash flow,
NI = net income,
EI = extraordinary items,
CAPEX = capital expenditures,
DEP = depreciation, and
DT = deferred taxes.

determination. See Ex Parte No. 664 (Sub-No.1), *Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital*, served January 28, 2009.

The Morningstar/Ibbotson MSDCF model utilizes five-year moving averages for each railroad. The years used in this case are 2010 through 2014. Data are copied from the Consolidated Cash Flow and Income Statement of each railroad's annual 10-K report, and any changes to prior years have been incorporated. The 10-K reports, which are filed with the Securities and Exchange Commission, are usually available each year around February. In addition to the data points listed above, sales (a.k.a. revenue) is used as part of a smoothing (or averaging) process. Table 14 illustrates the Morningstar/Ibbotson process to calculate an average cash flow. Revenue, Net Income, and Extraordinary Items are sourced from the Income Statement. Depreciation, Deferred Taxes, and Capital Expenditures are sourced from the Statement of Cash Flows.

Table No. 14
Example Cash Flow Calculations for UNP in 2014
(\$ in millions)

	2010	2011	2012	2013	2014	Total
Net Income	\$2,780	\$3,292	\$3,943	\$4,388	\$5,180	\$19,583
Less Extraord. Items	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Inc. Bef. Extraord. Items (+)	\$2,780	\$3,292	\$3,943	\$4,388	\$5,180	\$19,583
Capital Expenditures (-)	\$2,482	\$3,176	\$3,738	\$3,496	\$4,346	\$17,238
Depreciation (+)	1,487	1,617	1,760	1,777	1,904	8,545
Deferred Taxes (+)	<u>672</u>	<u>986</u>	<u>887</u>	<u>723</u>	<u>895</u>	<u>4,163</u>
Cash Flow	\$2,457	\$2,719	\$2,852	\$3,392	\$3,633	\$15,053
Revenue (a.k.a. "Sales")	\$16,965	\$19,557	\$20,926	\$21,963	\$23,988	\$103,399
Ratio of Cash Flow to Sales (Smoothed Ibbotson-style) = (\$15,053 / \$103,399) =						0.14558
Initial Cash Flow in 2014 (Smoothed Ibbotson-style) = (0.14558 x \$23,988) =						\$3,492.21
Ratio of IBEL to Sales (Smoothed Ibbotson-style) = (\$19,583 / \$103,399) =						0.18939
Terminal Cash Flow input (Smoothed Ibbotson-style) = (0.18939 x \$23,988) =						\$4,543.15

After the financial data are collected, they are combined (Total column in the example) into a five-year cash flow for the purpose of averaging or smoothing. The average cash flow for 2014, which is the initial cash flow in the model, is calculated by

multiplying revenue for 2014 times the five-year average ratio of cash flow to revenue. In our example here, the model's input for the initial cash flow is \$3,492.21 million. The ratio of cash flow to sales is calculated by dividing the five year total cash flow by the five year total revenue.

The model's terminal cash flow value is based on the assumptions that in the third stage of the model, depreciation equals capital expenditures, and deferred taxes are zero. Therefore, the depreciation and capital expenditures from the initial cash flow formula cancel each other, and deferred taxes are eliminated because they are zero. The remaining part of the equation for the model's terminal cash flow is income before extraordinary items (IBEI), which we calculate by subtracting extraordinary items from new income. In our Table 14 example, the model's input for the terminal cash flow is \$4,543.15 million. The model's terminal cash flow input is calculated by multiplying revenue for 2014 times the five-year average ratio of income before extraordinary items to revenue. The ratio of income before extraordinary items to sales is calculated by dividing the five year income before extraordinary items by the five year total revenue.

All cash flow calculations herein have been calculated using the same procedure used by the AAR for the previous cost of capital determination. Appendix K contains the four railroad cash flow calculations for 2014. The pages from the 2014 10-K reports that were used as data sources for cash flows are included in my work papers. Data for prior years (2010-2013) used in this year's calculation are unchanged from last year's submission – unless revised data were found in the 2014 10-K statements.

2. Growth Rates

The first stage of the Morningstar/Ibbotson MSDCF model applies to a period that is one to five years in the future. The current year (2014) is considered to be year 0. In each year of the first stage, a firm's annual earnings growth rate is assumed to be the median value of the firm's three- to five-year growth estimates that are made by railroad industry analysts after the release of the year-end financial statements. However, in Ex Parte No. 558 (Sub No. 12), the STB clarified their interpretation of the Morningstar/Ibbotson MSDCF model by specifying use of data in effect at the end of the current year as the date for growth rates, stock prices, and stock shares outstanding.³⁸ (Clearly, the Board's interpretation does not anticipate the use of growth estimates based on the release of audited year-end financial statements.) In Ex Parte No. 558 (Sub No. 16), the STB made another clarification in their interpretation of the Morningstar/Ibbotson MSDCF model by specifying the *last full week of the year* as the point from which stock prices should be used. Therefore, we have utilized growth rate projections that were in effect at the end of 2014, and stock prices as of January 2, 2015 – the prices at the end of the last full week for 2014. Each growth rate projection was reviewed by the brokerage firm's analyst during 2014, and the stock prices (like the data used in the CAPM) were retrieved from Yahoo! Finance.

For many years, analyst growth rate estimates were collected, and distributed, by the Institutional Brokers Estimate System (a.k.a. IBES or I/B/E/S). In recent years, the IBES growth rates have been distributed by Thomson Financial through its Thomson ONE Investment Management service. Although the term "IBES" is rarely used by Thomson,

³⁸ STB Ex Parte No. 558 (Sub-No. 12), Railroad Cost of Capital – 2008, served September 25, 2009.

many users of the data still refer to these growth rates as “IBES” growth rates. Thomson Financial also distributes medians of the IBES growth rate estimates on a historical basis through its Thomson ONE Banker service. The median estimates provided through the Thomson ONE Banker service do not always reflect the full set of growth rate estimates. Therefore, I have utilized all estimates available from the Thomson ONE Investment Management service, and determined medians based on that data. These growth rates are described in the Thomson Financial Glossary as the expected annual increase in operating earnings over a company’s next full business cycle. A worktable and the source data are included in Appendix L. Table 15 below lists the median growth rate estimates.

Table No. 15
2014 Thomson Median Growth Rate Estimates

Company	Stock Symbol	Growth Rate
CSX Corporation	CSX	10.10 %
Kansas City Southern	KSU	15.45
Norfolk Southern Corporation	NSC	11.90
Union Pacific Corporation	UNP	13.25
Simple Average		12.68

Thus, the median growth rate estimates have been retrieved using the same procedure and source used by the AAR last year. Each individual railroad’s median growth rate is used in the first stage of the Morningstar/Ibbotson MSDCF model.

The second stage of the Morningstar/Ibbotson MSDCF model applies to a period six to ten years in the future. Morningstar’s model assumes “that over a middle horizon, growth of any particular company will lie more in line with the industry as a whole”.³⁹ In this stage, the cash flows at the end of year five are assumed to grow at the simple (not

³⁹ *Ibbotson SBBi 2013 Valuation Yearbook*, page 51.

weighted) average of the individual firm medians used in the first stage. In Table 15, the average of the median growth rates is 12.68 percent, which is close to the 12.47 percent used for the previous year. This is the growth rate (12.68 percent) used for all railroads in the second stage of the Morningstar/Ibbotson MSDCF model.⁴⁰

The third stage of the MSDCF model begins 11 years in the future and continues in perpetuity. Starting in year 11, the firm's growth rate is assumed to be the long-run nominal growth rate of the aggregate U.S. economy. Until the 2013 Cost of Capital determination, the long-run nominal growth rate was supplied by Morningstar/Ibbotson in its *Ibbotson SBBI Valuation Yearbook*. In September 2013, customers subscribing to the *Ibbotson SBBI Valuation Yearbook* were notified that the publication was being discontinued, but the *Ibbotson® SBBI® Classic Yearbook* (Classic Yearbook) would be expanded to contain many of the statistics found in the Valuation Yearbook.

Using data from the Ibbotson, the Federal Reserve, and the Bureau of Economic Analysis, I have replicated the 2009 through 2012 Ibbotson calculations for real growth rates and long-term inflation – which are combined to be used as the long term growth rate for Stage 3 of the MSDCF. In the 2013 Cost of Capital determination, this methodology was accepted for the Stage 3 growth rate, and it has been used again herein for 2014. Appendix M contains my calculations for the Stage 3 growth rate for 2013 and 2014, and the replicated Ibbotson calculations for 2009 through 2012. The rate for 2014 is 4.98 percent, which is somewhat lower than the 5.58 used for 2013.

⁴⁰ The model used an average rounded to 2 digits after the decimal.

3. Market Values

The final inputs to the Morningstar/Ibbotson MSDCF model are the stock market values for the equity of each railroad. The market values serve two purposes. First, a firm's market value is a necessary part of the MSDCF model. As stated earlier, each railroad's cost of equity in the MSDCF model is determined by solving for the discount rate that equates a firm's *market value* to the present value of the expected stream of free cash flow that is potentially available for distribution to equity investors. The second need for market values is to determine weights for combining the model's cost of equity for each individual railroad into the composite railroad mandated by the Board. Thus, Table 16 below calculates the market value for each railroad, and it uses the market values to calculate weights.

Table No. 16
Equity Market Value on January 2, 2015

Company	Stock Price	Shares Outstanding	Market Value (\$mil)	Weight
CSX	\$35.85	995,397,303	35,685.0	18.961 %
KSU	\$120.42	110,360,358	13,289.6	7.061
NSC	\$109.15	309,441,867	33,775.6	17.946
UNP	\$118.61	889,099,281	105,456.1	56.032
Total		2,304,298,809	\$188,206.2	100.000 %

As directed by the Board, I have used stock prices (from Yahoo Finance) for January 2, 2015 (instead of the end of the calendar year) since January 2 is the last trading day of the week that qualifies as the last week of 2014 for cost of capital purposes. I have also used the shares outstanding for that day from the 2014 Q3 10-Q reports (the latest information available prior to January 2, 2015) filed with the Securities and Exchange Commission. Market value is simply each firm's stock price multiplied by its shares

outstanding, and weights are based on the market values. Appendix N contains the stock price pages as retrieved from Yahoo Finance, and it also contains the 10-Q pages used for shares outstanding.

4. Cost of Common Equity Using the MSDCF Model

The equation found in Appendix J provides the mathematical formula that is used to generate the three-stage DCF cost of equity estimates for each railroad. The left side of this equation is the market value of the firm in year 0. The right side of the equation is the discounted value of the cash flows from the three stages of the firm's expected future growth. Essentially, this equation is solved for each firm by simply testing discount rates (cost of equity) in an effort to find one that causes the sum of the present values of the cash flows for the three stages to be equal to the market value at year 0. An iterative process can be used to narrow down the possible solutions to the ultimate answer, or Microsoft Excel's Solver function can be used to automate the process.⁴¹

Applying the methods described above, I have calculated a cost of common equity for each of the four railroads specified using a spreadsheet like the one utilized in the 2013 filing. Using an initial cash flow, an input for calculating the terminal cash flow, growth rates for each of the three stages, and a market value effective January 2, 2015, I have solved for the discount rate (cost of equity) that causes the sum of the present values of cash flows for each stage to equal the firm's market value. My spreadsheet is displayed in Appendix O. Table 17 below shows the MSDCF estimate for each of the railroads. In the same table, I have also calculated an MSDCF cost of common equity (using weights from

⁴¹ A commonly used Excel user's manual describes the Solver function as follows: "Solver is an Excel add-in that goes several steps further than goal seeking. It uses the same basic trial-and-error approach (known to scientific types as an iterative approach), but it's dramatically more intelligent than goal seeking." See Matthew McDonald, Excel: *The Missing Manual*, O'Reilly Media, 2005, p. 519.

Table 16 and the individual railroad cost of equities) for the composite railroad, which is the current cost of equity for this model. Thus, the MSDCF produces a cost of common equity of 12.30 percent for 2014, which is lower than the 13.40 used by the Board for 2013.

Table No. 17
Cost of Equity Using STB's Ibbotson MSDCF

Company	Weight	Cost of Equity	Weighted Calculation
CSX	18.961%	12.43 %	2.36
KSU	7.061%	9.82	0.69
NSC	17.946%	13.16	2.36
UNP	56.032%	12.30	6.89
Total	100.000%		
Weighted Current Cost of Equity			12.30 %

D. Conclusion as to the Cost of Common Equity Capital

In the STB’s Ex Parte No. 558 (Sub-No. 18) decision served February 19, 2015, the Board specified that comments “should focus ... using the methodology followed in *Railroad Cost of Capital – 2013*”, which means that a simple average of the estimates produced by the CAPM adopted in STB Ex Parte No. 664 and the Morningstar/Ibbotson Multi-Stage DCF Model specified in STB Ex Parte 664 (Sub No. 1) should be used. Table 18 contains the cost of common equity estimated by each model, and a simple average of the estimates. The cost of common equity for 2014 is 12.06 percent, which is below the 12.96 percent decided for 2013.

Table No. 18
Cost of of Common Equity Capital

<i>Model</i>		
Capital Asset Pricing Model	11.82 %	From Table No. 13
Multi-Stage Discounted Cash Flow	12.30	From Table No. 17
Cost of Common Equity	12.06 %	Average

V. Preferred Equity Capital in 2014

There were no preferred stock shares outstanding for the composite railroad sample from 2002 through 2012. Beginning 2013, one of the railroad companies comprising the railroad composite sample had preferred stock outstanding. This continues in 2014, although the market value of the preferred stock remains very small.

A. Overview of Preferred Stock

Preferred stock is a hybrid security which has some characteristics of debt and some characteristics of equity. The general characteristics of preferred stock are as follows:

1. It is an equity security similar to common stock in that it represents ownership in the corporation.
2. It has dividend preference over common stock in that it has prior claim on the corporation's earnings before dividends are paid to holders of common stock.
3. It is a security which typically has a stated rate of return or fixed dividend. (If the stock has a par value, it will state the annual dividend payments in terms of percentage of par value -- for example, a 6 percent preferred. No-par value preferred stock has a dividend stated in a dollar amount, for example, a \$6 preferred.)
4. It is a security that pays dividends only if they are declared by the board of directors. (If there are no earnings, the dividends may be paid out of earned surplus. In any event, dividends must be declared by the board.)
5. It has prior claim over assets at dissolution. If the corporation is liquidated, the holders of preferred stock, like bondholders, have a prior claim on assets over common stock shareholders. Therefore, preferred stock is also referred to as a senior security.

6. Ownership privileges are limited. (Preferred stock usually carries no voting right. In most instances, it does not participate in earnings above a set amount. The preemptive right to buy new securities is limited.)
7. It generally has no maturity date or maturity value. (The exception is sinking fund preferred issues which effectively must be retired at some future date.)

There are numerous types of preferred stock. The chief distinction among different types of preferred stock is the method and amount of dividend payment to the investor. In addition, there are specific privileges related to each type. Major types of preferred stock are listed below.

1. *Cumulative* - Occasionally, a board will decide not to pay dividends. If the stock is cumulative, unpaid dividends accumulate and the total accumulated (in arrears) must be paid to the holder of cumulative preferred stock before any dividends can be paid to the common stockholders. Most preferred stocks are cumulative.
2. *Noncumulative* - When business is such that the corporation's board of directors decides not to pay dividends, holders of noncumulative preferred stock lose their dividends. These dividends cannot be claimed in the future.
3. *Participating* - Owners of participating preferred stock receive – in addition to their fixed dividend – a share in the earnings remaining after all senior securities have been paid. If any additional dividend is declared, it is generally declared along with the common stock dividend. Participating preferred stock may also be cumulative, noncumulative or convertible.
4. *Redeemable* - Preferred stock is usually callable immediately. This means that the issuer can retire the stock at any time, if the company has the necessary cash. In some instances, as with so-called sinking fund preferred, the issuer is required to redeem the stock over a specified period of time. Generally, when redemption occurs, the firm must pay a premium price to the holder of the instrument.
5. *Auction Market* - This stock represents a new variety of variable-rate preferred stock. This security is generally appropriate for corporations with "temporary" idle corporate funds. The dividends, payable every seven weeks in the case of most issues, are determined by bids from current holders and potential buyers. The Auction Market Preferred shares are redeemable at the issuer's option, in whole or in part, on or near the interest payment date.
6. *Convertible* - A preferred stock is convertible if the holder has the privilege of converting the preferred stock into common stock at specified prices. This is an advantage to the holder if the market price of common stock increases. Often the convertible preferred will sell at a premium (above conversion parity) because of the conversion feature, especially as the selling price of common issues increase. Dividends of convertible preferred stock can also be cumulative or noncumulative.

B. The Market Value of Preferred Equity Capital

The market value of preferred equity is based on stock prices and shares outstanding for 2014. Kansas City Southern is the only railroad included in the composite railroad sample that has preferred stock. Table 19 below summarizes the market value calculation. The Weight column, which is not used directly in our calculation, is provided as additional information (which would be more useful if more than one railroad had preferred stock). Calculations are shown in Appendix P.

Table No. 19
Average Market Value
For Preferred Equity in 2014

Railroad Co.	Value (\$000)	Weight %
CSX	\$0.0	0.00
KSU	6,555.2	100.00
NSC	0.0	0.00
UNP	0.0	0.00
Total	\$6,555.2	100.00 %
Prior Year	\$6,253.7	

C. The Cost of Preferred Equity Capital

The cost of preferred equity depends, in large part, on its specific features. Three methods for determining the cost of preferred equity capital are listed below.

1. *The Dividend Yield Method* is used when the preferred stock is not convertible and there is no specific requirement to redeem the preferred. It is also used to cost preferred issues retired or redeemed during the year. The current cost in this instance is computed by dividing the stated dividend by the current market price. This method was used for all preferred stock in the 2002 cost of capital proceeding. This was also the method used for Kansas City Southern preferred stock in 1999, which was the last time Kansas City Southern was part of the composite railroad until 2013.

2. The *Internal Rate of Return Method* is used for preferred stocks which are not convertible but are subject to a mandatory redemption schedule providing a premium over the stated/par value. The current cost is equal to rate of return which equates the current price with the present value of dividends plus the redemption price.
3. The *Common Equity Method* is used when the preferred stock is convertible at the option of the holder, and the market values of the preferred and common stock indicate that conversion is likely to occur or the conversion right is influencing the price of the preferred stock. In this case, the preferred equity has the same cost as common equity.

The preferred stock that is part of the composite railroad belongs to Kansas City Southern. This stock is not convertible, and is non-cumulative. Therefore, I have used the Dividend Yield Method to estimate the cost of preferred equity. This is the same method used last year. The formula for the Dividend Yield Method is simply the annual dividends divided by the average price for the year. In this year's case, the cost of preferred equity is 3.69 percent, which is slightly lower than the 3.87 percent calculated for 2013. Appendix P provides more detail for this calculation, and the table below summarizes my findings.

Table No. 20
Cost of Preferred Equity Capital

<u>Company</u>	<u>Weight</u>	<u>Cost of Equity</u>	<u>Weighted Calculation</u>
CSX	0.00%	-- %	0.00
KSU	100.00%	3.69	3.69
NSC	0.00%	--	0.00
UNP	0.00%	--	0.00
Total	100.00%		
Weighted Current Cost of Equity			3.69 %

VI. The Overall Cost of Capital In 2014

A. Determination of Market Value Weights

With more detail shown in Tables 7, 11, and 19, the average market value of debt, common equity, and preferred equity are \$33.3 billion, \$166.4 billion, and \$6.6 million, respectively. More market value detail are provided in Appendixes D, G, and P. The figure for the market value of debt includes market values of bonds, notes, debentures, equipment trust certificates, and conditional sales agreements (if there had been any). Other debt and capitalized leases are included at their book value, because market values are difficult to determine (in some instances book values correspond to market values) and because these other instruments are a minimal portion of all railroad debt.

In the Board's 2012 Cost of Capital decision, it used percentages for weights that were rounded to two digits after decimal.⁴² In its 2013 decision, the weight for preferred equity was rounded to three digits after the decimal.⁴³ Table 21 lists weights calculated using three digits after the decimal, and compares to the prior year.⁴⁴ The 2014 market value weights for debt, common equity, and preferred equity are 16.662 percent, 83.335 percent, and 0.003 percent, respectively. If all three weights are rounded to two digits after the decimal, the weights for debt, common equity, and preferred equity, will be 16.66 percent, 83.34 percent, and 0.00 percent, respectively. The weight for preferred rounds to zero.

⁴² See *Ex Parte 558 (Sub-No. 16)*, served August 30, 2013, Table 15.

⁴³ See *Ex Parte 558 (Sub-No. 17)*, served July 31, 2014, Table 16.

⁴⁴ The 2013 capital structure weight is shown herein as 0.00 percent for Preferred Equity when rounded to 2 digits after the decimal. The Board's decision used 0.004 percent which does not total to 100 percent. Using either figure results in the same cost of capital.

**Table No. 21
Capital Structure and Weights**

	Source Table	2014		2013	
		Market Value (mil)	Capital Structure Weight	Market Value (mil)	Capital Structure Weight
Debt	7	\$33,271.1	16.662 %	\$28,384.2	17.69 %
Common Equity	11	166,408.8	83.335	132,061.9	82.31
Preferred Equity	19	6.6	0.003	6.3	0.00
Total		\$199,686.5	100.000 %	\$160,452.3	100.00 %

The market value for all three categories increased from 2013 to 2014, with common equity increasing by the highest rate. Thus, weights are not very different from 2013 – debt is about 1 percentage point lower, and common equity is about 1 percentage point higher.

B. The Overall Cost of Capital

Multiplying the cost of debt, the cost of common equity capital, and the cost of preferred equity capital, by their respective market value proportions, results in a 2014 overall cost of capital of 10.65 percent, as shown in Table 22. This is the lowest cost of capital calculated since 2009.

**Table No. 22
Weighted Current Cost of Capital for 2014**

	Source Table	Capital Structure Weight	Current Cost
Debt	11	16.662 %	3.58 %
Common Equity	18	83.335	12.06
Preferred Equity	20	0.003	3.69
Total		100.000 %	
Weighted Current Cost of Capital			10.65 %

Using weights rounded to 3-digits after the decimal (as in Table 22), or 2-digits after the decimal makes no difference in the overall cost of capital, as shown in Table 22a.

Table No. 22a
Weighted Current Cost of Capital for 2014
Using 2-Digit Weights

	Source Table	Capital Structure Weight	Current Cost
Debt	11	16.66 %	3.58 %
Common Equity	18	83.34	12.06
Preferred Equity	20	0.00	3.69
Total		100.000 %	
Weighted Current Cost of Capital			10.65 %

VII. Qualifications of John T. Gray

My name is John T. Gray. I am Senior Vice President — Policy and Economics for the Association of American Railroads (AAR), with offices located at 425 Third Street SW, Suite 1000, Washington, D.C. 20024. Among other responsibilities, my duties include the collection, analysis, and presentation of economic data related to railroads and their economic environment. One of my principal duties is conducting and supervising economic, financial, statistical and cost studies dealing with various aspects of the rail industry.

Prior to joining the AAR, I worked for Union Pacific Railroad where my most recent position was as Executive Director, responsible for the commercial relationship with other transportation carriers and ports, and for strategic policy analysis on issues involving regulatory proposals, legislation and potential litigation. I have also held marketing, planning, and operating positions with other railroads including the Southern Pacific, the Burlington Northern and the Alaska Railroad. I began my railroad career at Atchison,

Topeka, and Santa Fe in their cost analysis organization. Additionally, I have also worked for ARCO Alaska.

At Southern Pacific, I was responsible for network planning, analysis, and management, as well as the company's cost analysis organization. I provided testimony on behalf of Southern Pacific regarding the economic impact to the company of the proposed combination of the Chicago and North Western Transportation Company with Union Pacific Railroad. Later, I provided extensive testimony on the economic position of Southern Pacific during the STB's review of the merger application for Union Pacific and Southern Pacific.

I hold both a Bachelors and Masters degree in Civil Engineering from Tulane University and did post-graduate work in mathematical modeling of transportation networks and rail cost systems at Northwestern University. I have also served on the faculty at the University of Alaska, where my work included network modeling and research concerning the interrelationship of transportation and economic development.

VERIFICATION

WASHINGTON, D.C.)
) SS.

I, John T. Gray, being duly sworn, state that I have read the foregoing statement, that I know its contents, and that those contents are true as stated.



JOHN T. GRAY

Subscribed and sworn to before me this 20th day of March 2015.



Notary Public

My Commission expires:

ELIZABETH J. EAGNEY
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires August 14, 2017



Appendix A
Bonds, Notes and Debentures

Summaries

CSX Corporation	A-1
Kansas City Southern	A-4
Norfolk Southern Corporation	A-7
Union Pacific Corporation	A-10

Individual Bonds, Notes, and Debentures

CSX Corporation	A-13
Kansas City Southern	A-39
Norfolk Southern Corporation	A-44
Union Pacific Corporation	A-69

CSX Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$'000)		Average Price	Market Value	Average Yield	Interest Cost
						Year-End	Used		(\$ '000)		(\$ '000)
Traded											
1	Debentures		1 126408BL6	7.900%	5/1/2017	\$312,596	\$312,596	117.626	\$367,693	1.420%	\$5,221
2	Notes		2 126408GJ6	5.600%	5/1/2017	\$300,000	\$300,000	110.962	\$332,886	1.580%	\$5,260
3	Notes		3 126408GM9	6.250%	3/15/2018	\$600,000	\$600,000	115.779	\$694,671	1.780%	\$12,365
4	Notes		4 126408GQ0	7.375%	2/1/2019	\$500,000	\$500,000	122.063	\$610,316	2.230%	\$13,610
5	Notes		5 126408GT4	3.700%	10/30/2020	\$500,000	\$500,000	105.014	\$525,071	2.820%	\$14,807
6	Notes		6 12641LBD4	9.870%	2/12/2021	\$10,000	\$10,000	134.713	\$13,471	3.830%	\$516
7	Notes		7 126408GV9	4.250%	6/1/2021	\$350,000	\$350,000	108.340	\$379,190	2.900%	\$10,997
8	Debentures		8 126408AQ6	8.100%	9/15/2022	\$69,081	\$69,081	128.990	\$89,108	3.890%	\$3,466
9	Debentures		9 126408AM5	8.625%	5/15/2022	\$81,517	\$81,517	132.016	\$107,616	3.800%	\$4,089
10	Notes		10 126408GZ0	3.700%	11/1/2023	\$500,000	\$500,000	102.822	\$514,109	3.340%	\$17,171
11	Notes		CSX Corp. (New) 11 126408HB2	3.400%	8/1/2024	\$550,000	\$252,083	100.585	\$253,558	3.330%	\$8,443
12	Debentures		12 126408BP7	7.250%	5/1/2027	\$83,312	\$83,312	128.170	\$106,781	4.350%	\$4,645
13	Debentures		13 126408BM4	7.950%	5/1/2027	\$64,266	\$64,266	130.139	\$83,635	4.800%	\$4,014
14	Notes		14 12641LBU6	6.800%	12/1/2028	\$200,000	\$200,000	122.849	\$245,698	4.610%	\$11,327
15	Notes		15 126408GH0	6.000%	10/1/2036	\$400,000	\$400,000	121.178	\$484,713	4.490%	\$21,764
16	Notes		16 126408GK3	6.150%	5/1/2037	\$700,000	\$700,000	123.591	\$865,135	4.490%	\$38,845
17	Notes		17 126408GP2	7.450%	4/1/2038	\$79,226	\$79,226	134.424	\$106,499	4.970%	\$5,293
18	Notes		18 126408GS6	6.220%	4/30/2040	\$660,000	\$660,000	125.430	\$827,841	4.540%	\$37,584
19	Notes		19 126408GU1	5.500%	4/15/2041	\$550,000	\$550,000	115.218	\$633,698	4.520%	\$28,643
20	Notes		20 126408GW7	4.750%	5/30/2042	\$600,000	\$600,000	104.403	\$626,419	4.480%	\$28,064
21	Notes		21 126408GX5	4.400%	3/1/2043	\$300,000	\$300,000	99.561	\$298,682	4.430%	\$13,232
22	Notes		22 126408GY3	4.100%	3/15/2044	\$800,000	\$800,000	94.267	\$754,135	4.450%	\$33,559
23	Notes		CSX Corp. (New) 23 126408HA4	4.500%	8/1/2054	\$450,000	\$206,250	100.291	\$206,850	4.490%	\$9,288
24	Notes		CSXT - Conrail 24 126410LK3	9.750%	6/15/2020	\$227,171	\$227,171	135.557	\$307,945	3.100%	\$9,546
25	Notes		CSXT - Conrail 25 126410LL1	7.875%	5/15/2043	\$99,989	\$99,989	126.354	\$126,340	5.970%	\$7,543
26	Sec'd Eq Notes		CSXT 26 126410LM9	6.251%	1/15/2023	\$268,437	\$268,437	117.476	\$315,348	3.830%	\$12,078
27											
28											
29											
30											
31											
32											
33											
Total						\$9,255,595	\$8,713,928		\$9,877,407	3.659%	\$361,369

CSX Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market	Average Yield	Interest
						Year-End	Used		Value (\$ 000)		Cost (\$ 000)
Trading Data Not Available or Did Not Trade											
1	Notes			2.890%	10/22/2044	73,304	73,304	100.000	\$73,304		
2	Convertible		126408GA5	Changes	10/30/2021	1,034	1,034	100.000	\$1,034		
3	Conrail Tax Note			2.890%	10/22/2044	151,334	151,334	100.000	\$151,334		
4	TORCO			6.450%	12/15/2021	29,700	29,700	100.000	\$29,700		
5	NCT Note			0.000%	N/A	1,089	1,089	100.000	\$1,089		
6											
7											
8											
9											
10											
11											
12											
13											
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19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
Total						\$256,461	\$256,461		\$256,461		

CSX Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Matures in 2015											
1	Notes		CSX Corp.	126408GN7	6.250%	04/01/15	200,000				
2											
3											
4											
5											
6											
7											
8											
9											
10											
Total							\$200,000				

Grand Totals

Total Traded and Trading Data Not Available	\$9,512,056	\$8,970,390	\$10,133,869
Grand Total (for reconciliation to carrier data only)	\$9,712,056		

From CSX:

Corporate Notes	\$8,933,302
Convertible Debt	1,034
CSXT Notes	478,494
Secured Equipment Notes	268,437
Other Notes	30,789
Total	\$9,712,056

Kansas City Southern Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value	Average Yield	Interest Cost
						Year-End	Used		(\$ 000)		(\$ 000)
Traded											
1	Senior Note	KCSR (New)	27 485188AN6	4.300%	5/15/2043	\$445,984	\$260,157	98.072	\$255,141	4.420%	\$11,277
2	Senior Note	KCSR (New)	28 485188AM8	3.850%	11/15/2023	\$199,759	\$116,526	102.289	\$119,193	3.550%	\$4,231
3	Senior Note	KCSM	29 485161AQ6	2.350%	5/15/2020	\$274,752	\$274,752	95.901	\$263,490	3.120%	\$8,221
4	Senior Note	KCSM	30 485161AS2	3.000%	5/15/2023	\$448,411	\$448,411	95.235	\$427,044	3.630%	\$15,502
5	Senior Note	KCSM	31 485161AU7	0.933%	10/28/2016	\$250,000	\$250,000	100.401	\$251,003	0.770%	\$1,933
6											
7											
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22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
Total						\$1,618,906	\$1,349,846		\$1,315,871	3.128%	\$41,164

Kansas City Southern Corporation

12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Trading Data Not Available or Did Not Trade											
1	RRIF Loan			2.960%	2/24/2037	50,416	50,416	100.000	\$50,416		
2	IDOT-GWE			3.000%	2/19/2018	237	237	100.000	\$237		
3	FRA RRIF			4.290%	7/13/2030	37,776	37,776	100.000	\$37,776		
4	Bank of NY Note		485170AF1	7.000%	12/15/2025	\$221	221	100.000	\$221		
5	EDC Loan			5.737%	2/28/2023	39,164	39,164	100.000	\$39,164		
6	DVB Loan			6.195%	9/29/2023	30,450	30,450	100.000	\$30,450		
7	GE Loan			9.310%	12/15/2020	66,869	66,869	100.000	\$66,869		
8											
9											
10											
11											
12											
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23											
24											
25											
26											
27											
28											
29											
30											
Total						\$225,133	\$225,133		\$225,133		

Kansas City Southern Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Matures in 2015											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Total											\$0

Grand Totals													
Total Traded and Trading Data Not Available											\$1,844,039	\$1,574,979	\$1,541,004
Grand Total (for reconciliation to carrier data only)											\$1,844,039		
												<small>Difference of 1 assumed to be rounding</small>	

From KSU:

KCSR	\$696,396
TexMex	37,776
KCS	221
KCSM	1,109,645
Total	\$1,844,038

Norfolk Southern Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value	Average Yield	Interest Cost		
						Year-End	Used		(\$ 000)		(\$ 000)		
Traded													
1	Debenture		Southern Railway	32	655855FA7	9.750%	6/15/2020	\$313,741	\$313,741	135.901	\$426,377	3.080%	\$13,132
2	Debenture		Conrail	33	655855FB5	7.875%	5/15/2043	\$138,085	\$138,085	147.729	\$203,992	4.800%	\$9,792
3	Notes		Series A NSC	34	655844AA6	9.000%	3/1/2021	\$83,372	\$83,372	128.818	\$107,398	4.030%	\$4,328
4	Notes		Senior	35	655844AQ1	7.250%	2/15/2031	\$316,316	\$316,316	134.070	\$424,085	4.350%	\$18,448
5	Notes		Senior	36	655844AZ1	5.750%	4/1/2018	\$595,925	\$595,925	114.080	\$679,829	1.800%	\$12,237
6	Notes		Senior 144A	37	655844AY4	5.750%	4/1/2018	\$4,075	\$4,075	113.987	\$4,645	1.820%	\$85
7	Notes		Senior	38	655844BB3	5.750%	1/15/2016	\$499,850	\$499,850	107.325	\$536,464	0.810%	\$4,345
8	Notes		Senior 144A	39	655844BA5	5.750%	1/15/2016	\$150	\$150	107.248	\$161	0.830%	\$1
9	Notes		Senior	40	655844BC1	5.900%	6/15/2019	\$500,000	\$500,000	116.518	\$582,590	2.320%	\$13,516
10	Notes		Senior	41	655844BG2	3.250%	12/1/2021	\$500,000	\$500,000	102.348	\$511,741	2.890%	\$14,789
11	Notes		Senior	42	655844BJ6	3.000%	4/1/2022	\$600,000	\$600,000	99.866	\$599,198	3.020%	\$18,096
12	Notes		Senior	43	655844BL1	2.903%	2/15/2023	\$596,450	\$596,450	97.397	\$580,926	3.250%	\$18,880
13	Notes		Senior 144A	44	655844BK3	2.903%	2/15/2023	\$3,550	\$3,550	97.257	\$3,453	3.270%	\$113
14	Notes		Senior	45	655844BD9	6.000%	5/23/2111	\$504,492	\$504,492	120.808	\$609,465	4.970%	\$30,290
15	Notes		Senior 2105	46	655844AV0	6.000%	3/15/2105	\$550,000	\$550,000	119.118	\$655,151	5.040%	\$33,020
16	Notes		Senior	47	655844AX6	5.640%	5/17/2029	\$210,316	\$210,316	115.716	\$243,370	4.210%	\$10,246
17	Notes		Senior	48	655844AW8	5.590%	5/17/2025	\$251,172	\$251,172	116.241	\$291,966	3.750%	\$10,949
18	Notes		Senior	49	655844BH0	4.837%	10/1/2041	\$595,504	\$595,504	106.650	\$635,107	4.420%	\$28,072
19	Notes		Senior	50	655844BM9	3.950%	10/1/2042	\$600,000	\$600,000	93.829	\$562,973	4.340%	\$24,433
20	Notes		Senior	51	655844BN7	4.800%	8/15/2043	\$500,000	\$500,000	106.714	\$533,568	4.390%	\$23,424
21	Notes		Senior	52	655844BP2	3.850%	1/15/2024	\$400,000	\$400,000	103.866	\$415,463	3.370%	\$14,001
22	Conrail Notes		CR NSC 2017	53	655844AE8	7.700%	5/15/2017	\$550,000	\$550,000	117.189	\$644,541	1.470%	\$9,475
23	Conrail Notes		CR NSC 2027	54	655844AJ7	7.800%	5/15/2027	\$368,199	\$368,199	135.208	\$497,836	4.230%	\$21,058
24	Conrail Notes		CR NSC 2037	55	655844AF5	7.050%	5/1/2037	\$256,690	\$256,690	135.969	\$349,019	4.510%	\$15,741
25	Conrail Notes		CR NSC 2097	56	655844AK4	7.900%	5/15/2097	\$273,317	\$273,317	156.905	\$428,848	5.010%	\$21,485
26													
27													
28													
29													
30													
31													
32													
33													
Total								\$9,211,204	\$9,211,204		\$10,528,167	3.514%	\$369,956

Norfolk Southern Corporation
12/31/2014

Type	Description	No. CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
					Year-End	Used				
Trading Data Not Available or Did Not Trade										
1	Other Bond	NSC Poca Dev Timber Bond	8.250%	10/1/2019	75,734	75,734	100.000	\$75,734		
2	Other Bond	NSC Poca Dev Timber Zero Coupon	0.000%	10/1/2019	9,169	9,169	100.000	\$9,169		
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29										
30										
Total						\$84,903	\$84,903	\$84,903		

Norfolk Southern Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Matures in 2015											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Total											\$0

Grand Totals

Total Traded and Trading Data Not Available	\$9,296,107	\$9,296,107	\$10,613,070
Grand Total (for reconciliation to carrier data only)	\$9,296,107		

From NSC:

Income Debentures	\$451,826
Medium Term Notes & Conrail Notes	8,759,378
Other Debt (Poca Dev)	84,903
Total	\$9,296,107

Union Pacific Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$'000)		Average Price	Market Value	Average Yield	Interest Cost
						Year-End	Used		(\$ '000)		(\$ '000)
Traded											
1	Debentures	UP Corp.	57 907818CS5	5.375%	6/1/2033	\$198,634	\$198,634	111.698	\$221,870	4.460%	\$9,895
2	Debentures	UP Corp.	58 907818CX4	6.150%	5/1/2037	\$111,977	\$111,977	123.121	\$137,867	4.520%	\$6,232
3	Debentures	UP Corp.	59 907818CU0	6.250%	5/1/2034	\$227,939	\$227,939	122.000	\$278,085	4.560%	\$12,681
4	Debentures	UP Corp.	60 907818CF3	6.625%	2/1/2029	\$419,733	\$419,733	129.927	\$545,346	3.910%	\$21,323
5	Debentures	UP Corp.	61 907818AZ1	7.000%	2/1/2016	\$203,431	\$203,431	109.231	\$222,210	0.970%	\$2,155
6	Debentures	UP Corp.	62 907818BY3	7.125%	2/1/2028	\$175,639	\$175,639	131.881	\$231,635	4.040%	\$9,358
7	Notes	UP Corp. (new)	63 907818DW5	2.250%	2/15/2019	\$299,678	\$287,191	101.435	\$291,311	1.920%	\$5,593
8	Notes	UP Corp.	64 907818DN5	2.750%	4/15/2023	\$323,350	\$323,350	97.641	\$315,721	3.060%	\$9,661
9	Notes	UP Corp.	65 907818DM7	2.950%	1/15/2023	\$299,865	\$299,865	99.311	\$297,799	3.040%	\$9,053
10	Notes	UP Corp. (new)	66 907818DY1	3.250%	1/15/2025	\$348,877	\$130,829	101.608	\$132,932	3.070%	\$4,081
11	Notes	UP Corp.	67 907818DR6	3.646%	2/15/2024	\$355,689	\$355,689	103.099	\$366,711	3.270%	\$11,991
12	Notes	UP Corp. (new)	68 907818DV7	3.750%	3/15/2024	\$397,225	\$380,674	104.282	\$396,974	3.230%	\$12,822
13	Notes	UP Corp.	69 907818DG0	4.000%	2/1/2021	\$498,500	\$498,500	108.132	\$539,036	2.630%	\$14,177
14	Notes	UP Corp. (new)	70 907818DZ8	4.150%	1/15/2045	\$344,685	\$129,257	101.613	\$131,342	4.060%	\$5,332
15	Notes	UP Corp.	71 907818DK1	4.163%	7/15/2022	\$627,519	\$627,519	108.750	\$682,424	2.920%	\$19,927
16	Notes	UP Corp.	72 907818DP0	4.250%	4/15/2043	\$320,614	\$320,614	99.895	\$320,278	4.260%	\$13,644
17	Notes	UP Corp.	73 907818DL9	4.300%	6/15/2042	\$299,662	\$299,662	100.446	\$300,998	4.280%	\$12,883
18	Notes	UP Corp.	74 907818DJ4	4.750%	9/15/2041	\$490,682	\$490,682	107.576	\$527,854	4.280%	\$22,592
19	Notes	UP Corp.	75 907818DU9	4.750%	12/15/2043	\$499,794	\$499,794	107.604	\$537,797	4.300%	\$23,125
20	Notes	UP Corp.	76 907818DT2	4.821%	2/1/2044	\$470,304	\$470,304	108.821	\$511,790	4.300%	\$22,007
21	Notes	UP Corp. (new)	77 907818DX3	4.850%	6/15/2044	\$298,145	\$285,722	109.412	\$312,614	4.290%	\$13,411
22	Notes	UP Corp.	78 907818CW6	5.650%	5/1/2017	\$193,705	\$193,705	111.009	\$215,030	1.590%	\$3,419
23	Notes	UP Corp.	79 907818DA3	5.700%	8/15/2018	\$368,752	\$368,752	114.601	\$422,593	1.950%	\$8,241
24	Notes	UP Corp.	80 907818CZ9	5.750%	11/15/2017	\$251,906	\$251,906	113.558	\$286,060	1.550%	\$4,434
25	Notes	UP Corp.	81 907818DF2	5.780%	7/15/2040	\$65,649	\$65,649	121.659	\$79,868	4.380%	\$3,498
26	Notes	UP Corp.	82 907818DD7	6.125%	2/15/2020	\$162,164	\$162,164	116.947	\$189,646	2.840%	\$5,386
27	Notes	UP Corp.	83 907818DB1	7.875%	1/15/2019	\$158,387	\$158,387	122.818	\$194,527	2.490%	\$4,844
28	Mort. Bond	UPRR-MP	84 606198LF4	4.750%	1/1/2020	\$29,905	\$29,905	98.779	\$29,540	5.000%	\$1,477
29	Mort. Bond	UPRR-MP	85 606198LG2	4.750%	1/1/2030	\$27,381	\$27,381	97.371	\$26,661	5.000%	\$1,333
30	Debentures	UPRR-MP	86 606198LH0	5.000%	1/1/2045	\$96,025	\$96,025	89.357	\$85,805	5.760%	\$4,942
31	Debentures	MP C&EI UPRR	87 167123AP3	5.000%	1/1/2054	\$1,641	\$1,641	68.551	\$1,125	7.490%	\$84
32											
33											
Total						\$8,567,457	\$8,092,520		\$8,833,449	3.392%	\$299,602

Union Pacific Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Trading Data Not Available or Did Not Trade											
1	Med. Term Notes Series B			9.2-9.3%	2014 - 2020	310	310	100.000	\$310		
2	Med. Term Notes Series C			9.5-10.0%	2014 - 2020	22,583	22,583	100.000	\$22,583		
3	Debt Security		Illinois DOT SPCSL	3.000%	12/31/2019	7,850	7,850	100.000	\$7,850		
4	Debt Security		Illinois DOT UPRR	3.000%	3/14/2018	33	33	100.000	\$33		
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30											
Total						\$30,776	\$30,776		\$30,776		

Union Pacific Corporation
12/31/2014

Type	Description	No.	CUSIP	Coupon Rate	Maturity Date	Amt. Outstanding (\$000)		Average Price	Market Value (\$ 000)	Average Yield	Interest Cost (\$ 000)
						Year-End	Used				
Matures in 2015											
1	Notes		UP Corp.	907818CV8	4.875%	01/15/15	249,995				
2	RR Tax Exempt		Albany County UPRR		1.850%	12/01/15	8,000				
3											
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9											
10											
Total							\$257,995				

Grand Totals

Total Traded and Trading Data Not Available	\$8,598,233	\$8,123,296	\$8,864,225
Grand Total (for reconciliation to carrier data only)	\$8,856,228		

From UNP:

Corporate Debentures, Notes, and Floating Rate Loans	\$8,885,393
Removal of Floating Rate Loans	-200,000
RR Misc Debt Securities (KFW, Albany County, MP, IL DOT....)	476,956
Removal of MP Debt Discount, and SP Purch. Acct. Debt Premium	93,879
Removal of Sale of Receivables	-400,000
Total	\$8,856,228

CSX Corporation		
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1	Type:	Debentures
	Description:	CSX Corp.
	CUSIP:	126408BL6
	Coupon Rate:	7.900%
	Maturity Date:	5/1/2017
	Amount Outstanding (\$ 000)	\$312,596
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	119.813	1.61 %
February	119.722	1.49
March	118.656	1.66
April	118.864	1.46
May	117.910	1.58
June	118.257	1.34
July	117.444	1.39
August	116.750	1.50
September	116.101	1.51
October	117.621	0.74
November	115.692	1.28
December	114.678	1.45
Average	117.626	1.42 %

Source: Bloomberg

CSX Corporation		
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2	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GJ6
	Coupon Rate:	5.600%
	Maturity Date:	5/1/2017
	Amount Outstanding (\$ 000)	\$300,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	112.521	1.65 %
February	112.935	1.43
March	111.870	1.63
April	111.221	1.73
May	112.209	1.37
June	111.754	1.35
July	110.334	1.72
August	109.000	2.13
September	110.381	1.48
October	109.973	1.51
November	109.972	1.45
December	109.373	1.48
Average	110.962	1.58 %

Source: Bloomberg

CSX Corporation		
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3	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GM9
	Coupon Rate:	6.250%
	Maturity Date:	3/15/2018
	Amount Outstanding (\$ 000)	\$600,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	118.396	1.61 %
February	117.159	1.81
March	115.665	2.10
April	116.468	1.83
May	117.034	1.59
June	116.393	1.67
July	115.382	1.83
August	115.472	1.72
September	114.850	1.80
October	114.680	1.73
November	114.029	1.85
December	113.814	1.78
Average	115.779	1.78 %

Source: Bloomberg

CSX Corporation		
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4	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GQ0
	Coupon Rate:	7.375%
	Maturity Date:	2/1/2019
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	123.631	2.33 %
February	123.674	2.25
March	121.982	2.51
April	121.000	2.63
May	125.519	1.66
June	122.743	2.14
July	121.370	2.33
August	121.935	2.14
September	120.957	2.26
October	120.575	2.26
November	121.690	1.93
December	119.683	2.29
Average	122.063	2.23 %

Source: Bloomberg

CSX Corporation		
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5	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GT4
	Coupon Rate:	3.700%
	Maturity Date:	10/30/2020
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	104.435	2.97 %
February	105.231	2.83
March	104.086	3.01
April	104.496	2.93
May	106.583	2.58
June	102.416	3.27
July	104.996	2.82
August	105.652	2.70
September	105.258	2.75
October	105.813	2.64
November	105.647	2.66
December	105.557	2.66
Average	105.014	2.82 %

Source: Bloomberg

CSX Corporation		
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6	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	12641LBD4
	Coupon Rate:	9.870%
	Maturity Date:	2/12/2021
	Amount Outstanding (\$ 000)	\$10,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	135.202	4.06 %
February	135.360	3.98
March	134.085	4.11
April	134.659	3.98
May	135.811	3.76
June	135.491	3.75
July	134.649	3.82
August	135.365	3.66
September	133.899	3.81
October	134.328	3.69
November	134.382	3.62
December	133.327	3.71
Average	134.713	3.83 %

Source: Bloomberg

CSX Corporation		
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7	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GV9
	Coupon Rate:	4.250%
	Maturity Date:	6/1/2021
	Amount Outstanding (\$ 000)	\$350,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	106.584	3.23 %
February	107.049	3.15
March	107.013	3.15
April	107.701	3.03
May	108.977	2.83
June	108.906	2.82
July	108.107	2.93
August	109.601	2.68
September	109.547	2.68
October	108.488	2.83
November	109.300	2.68
December	108.806	2.75
Average	108.340	2.90 %

Source: Bloomberg

CSX Corporation		
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8	Type:	Debentures
	Description:	CSX Corp.
	CUSIP:	126408AQ6
	Coupon Rate:	8.100%
	Maturity Date:	9/15/2022
	Amount Outstanding (\$ 000)	\$69,081
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	125.341	4.54 %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	130.500	3.80
June	128.500	4.02
July	130.000	3.77
August	Not Traded	-
September	131.677	3.50
October	129.011	3.81
November	128.292	3.87
December	128.600	3.78
Average	128.990	3.89 %

Source: Bloomberg

CSX Corporation		
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9	Type:	Debentures
	Description:	CSX Corp.
	CUSIP:	126408AM5
	Coupon Rate:	8.625%
	Maturity Date:	5/15/2022
	Amount Outstanding (\$ 000)	\$81,517
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	130.140	4.28 %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	Not Traded	-
September	132.268	3.74
October	135.493	3.27
November	Not Traded	-
December	130.164	3.90
Average	132.016	3.80 %

Source: Bloomberg

CSX Corporation		
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10	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GZ0
	Coupon Rate:	3.700%
	Maturity Date:	11/1/2023
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	100.015	3.70 %
February	101.362	3.53
March	99.926	3.71
April	101.475	3.52
May	103.141	3.31
June	103.298	3.29
July	103.379	3.27
August	103.997	3.19
September	103.626	3.24
October	103.821	3.21
November	105.425	3.00
December	104.396	3.13
Average	102.822	3.34 %

Source: Bloomberg

CSX Corporation		
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11	Type:	Notes
	Description:	CSX Corp. (New)
	CUSIP:	126408HB2
	Coupon Rate:	3.400%
	Maturity Date:	8/1/2024
	Amount Outstanding (\$ 000)	\$550,000
	Months Outstanding	5.5

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	99.939	3.41
August	101.783	3.19
September	99.698	3.44
October	100.442	3.35
November	100.634	3.32
December	101.015	3.28
Average	100.585	3.33 %

Source: Bloomberg

CSX Corporation		
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12	Type:	Debentures
	Description:	CSX Corp.
	CUSIP:	126408BP7
	Coupon Rate:	7.250%
	Maturity Date:	5/1/2027
	Amount Outstanding (\$ 000)	\$83,312
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	124.444	4.74 %
February	124.755	4.70
March	124.825	4.69
April	123.134	4.83
May	128.960	4.30
June	128.735	4.31
July	129.708	4.21
August	131.838	4.02
September	129.450	4.21
October	130.395	4.11
November	130.632	4.08
December	131.159	4.02
Average	128.170	4.35 %

Source: Bloomberg

CSX Corporation		
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13	Type:	Debentures
	Description:	CSX Corp.
	CUSIP:	126408BM4
	Coupon Rate:	7.950%
	Maturity Date:	5/1/2027
	Amount Outstanding (\$ 000)	\$64,266
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	126.000	5.18
May	132.538	4.59
June	Not Traded	-
July	131.879	4.62
August	Not Traded	-
September	Not Traded	-
October	Not Traded	-
November	Not Traded	-
December	Not Traded	-
Average	130.139	4.80 %

Source: Bloomberg

CSX Corporation		
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14	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	12641LBU6
	Coupon Rate:	6.800%
	Maturity Date:	12/1/2028
	Amount Outstanding (\$ 000)	\$200,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	119.000	4.97
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	123.500	4.54
September	Not Traded	-
October	126.047	4.31
November	Not Traded	-
December	Not Traded	-
Average	122.849	4.61 %

Source: Bloomberg

CSX Corporation		
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15	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GH0
	Coupon Rate:	6.000%
	Maturity Date:	10/1/2036
	Amount Outstanding (\$ 000)	\$400,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	112.031	5.10 %
February	117.316	4.74
March	118.460	4.67
April	121.334	4.48
May	123.451	4.35
June	120.892	4.50
July	121.050	4.49
August	123.348	4.35
September	122.473	4.40
October	123.047	4.36
November	123.547	4.32
December	127.190	4.10
Average	121.178	4.49 %

Source: Bloomberg

CSX Corporation		
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16	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GK3
	Coupon Rate:	6.150%
	Maturity Date:	5/1/2037
	Amount Outstanding (\$ 000)	\$700,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	117.997	4.85 %
February	120.004	4.72
March	117.778	4.86
April	122.701	4.55
May	125.041	4.40
June	124.905	4.41
July	125.972	4.34
August	126.038	4.33
September	123.468	4.49
October	124.909	4.40
November	125.611	4.35
December	128.665	4.17
Average	123.591	4.49 %

Source: Bloomberg

CSX Corporation		
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17	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GP2
	Coupon Rate:	7.450%
	Maturity Date:	4/1/2038
	Amount Outstanding (\$ 000)	\$79,226
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	129.807	5.26 %
February	129.204	5.29
March	129.724	5.26
April	131.210	5.16
May	133.301	5.03
June	132.593	5.07
July	132.996	5.05
August	137.847	4.76
September	135.485	4.89
October	136.917	4.81
November	140.614	4.59
December	143.393	4.44
Average	134.424	4.97 %

Source: Bloomberg

CSX Corporation		
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18	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GS6
	Coupon Rate:	6.220%
	Maturity Date:	4/30/2040
	Amount Outstanding (\$ 000)	\$660,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	119.901	4.87 %
February	120.683	4.82
March	123.350	4.66
April	123.591	4.65
May	127.473	4.43
June	125.760	4.52
July	126.108	4.50
August	128.693	4.35
September	126.060	4.50
October	126.962	4.44
November	126.103	4.49
December	130.481	4.24
Average	125.430	4.54 %

Source: Bloomberg

CSX Corporation

19	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GU1
	Coupon Rate:	5.500%
	Maturity Date:	4/15/2041
	Amount Outstanding (\$ 000)	\$550,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	111.094	4.77 %
February	111.062	4.77
March	112.845	4.66
April	115.474	4.50
May	116.041	4.47
June	116.219	4.46
July	114.732	4.54
August	116.392	4.44
September	113.747	4.60
October	118.005	4.35
November	117.161	4.39
December	119.842	4.24
Average	115.218	4.52 %

Source: Bloomberg

\$300,000	}	same CUSIP
<u>250,000</u>		
\$550,000		

CSX Corporation		
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20	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GW7
	Coupon Rate:	4.750%
	Maturity Date:	5/30/2042
	Amount Outstanding (\$ 000)	\$600,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	99.870	4.76 %
February	100.148	4.74
March	102.122	4.61
April	103.857	4.51
May	104.630	4.46
June	105.062	4.43
July	105.133	4.43
August	106.022	4.37
September	104.374	4.47
October	106.109	4.37
November	105.140	4.43
December	110.370	4.12
Average	104.403	4.48 %

Source: Bloomberg

CSX Corporation		
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21	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GX5
	Coupon Rate:	4.400%
	Maturity Date:	3/1/2043
	Amount Outstanding (\$ 000)	\$300,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	93.693	4.81
March	96.614	4.61
April	97.929	4.53
May	99.686	4.42
June	100.813	4.35
July	99.465	4.43
August	100.788	4.35
September	97.493	4.56
October	101.202	4.33
November	102.856	4.23
December	104.628	4.12
Average	99.561	4.43 %

Source: Bloomberg

CSX Corporation		
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22	Type:	Notes
	Description:	CSX Corp.
	CUSIP:	126408GY3
	Coupon Rate:	4.100%
	Maturity Date:	3/15/2044
	Amount Outstanding (\$ 000)	\$800,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	89.862	4.74 %
February	90.278	4.71
March	91.654	4.62
April	94.086	4.46
May	94.692	4.42
June	95.287	4.39
July	94.299	4.45
August	96.769	4.29
September	93.723	4.49
October	95.841	4.35
November	96.300	4.32
December	98.411	4.20
Average	94.267	4.45 %

Source: Bloomberg

CSX Corporation		
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23	Type:	Notes
	Description:	CSX Corp. (New)
	CUSIP:	126408HA4
	Coupon Rate:	4.500%
	Maturity Date:	8/1/2054
	Amount Outstanding (\$ 000)	\$450,000
	Months Outstanding	5.5

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	99.702	4.52
August	100.715	4.46
September	98.030	4.61
October	100.139	4.49
November	99.718	4.52
December	103.442	4.32
Average	100.291	4.49 %

Source: Bloomberg

CSX Corporation		
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24	Type:	Notes
	Description:	CSXT - Conrail
	CUSIP:	126410LK3
	Coupon Rate:	9.750%
	Maturity Date:	6/15/2020
	Amount Outstanding (\$ 000)	\$227,171
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	138.244	3.08 %
February	138.060	3.06
March	136.430	3.22
April	136.913	3.09
May	Not Traded	-
June	131.653	3.78
July	135.032	3.16
August	134.810	3.13
September	135.320	2.97
October	135.268	2.89
November	135.467	2.79
December	133.926	2.97
Average	135.557	3.10 %

Source: Bloomberg

CSX Corporation		
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25	Type:	Notes
	Description:	CSXT - Conrail
	CUSIP:	126410LL1
	Coupon Rate:	7.875%
	Maturity Date:	5/15/2043
	Amount Outstanding (\$ 000)	\$99,989
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	122.252	6.22 %
February	130.456	5.72
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	Not Traded	-
September	Not Traded	-
October	Not Traded	-
November	Not Traded	-
December	Not Traded	-
Average	126.354	5.97 %

Source: Bloomberg

CSX Corporation		
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26	Type:	Sec'd Eq Notes
	Description:	CSXT
	CUSIP:	126410LM9
	Coupon Rate:	6.251%
	Maturity Date:	1/15/2023
	Amount Outstanding (\$ 000)	\$268,437
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	116.050	4.09 %
February	116.000	4.08
March	117.500	3.88
April	114.500	4.25
May	118.500	3.73
June	119.300	3.60
July	118.375	3.70
August	117.625	3.77
September	118.458	3.67
October	117.800	3.71
November	118.125	3.66
December	Not Traded	-
Average	117.476	3.83 %

Source: Bloomberg

Kansas City Southern Corp.		
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27	Type:	Senior Note
	Description:	KCSR (New)
	CUSIP:	485188AN6
	Coupon Rate:	4.300%
	Maturity Date:	5/15/2043
	Amount Outstanding (\$ 000)	\$445,984
	Months Outstanding	7.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	95.989	4.55
August	96.504	4.52
September	96.790	4.50
October	98.558	4.39
November	97.307	4.47
December	103.282	4.10
Average	98.072	4.42 %

Source: Bloomberg

Kansas City Southern Corp.		
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28	Type:	Senior Note
	Description:	KCSR (New)
	CUSIP:	485188AM8
	Coupon Rate:	3.850%
	Maturity Date:	11/15/2023
	Amount Outstanding (\$ 000)	\$199,759
	Months Outstanding	7.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	Not Traded	-
September	Not Traded	-
October	Not Traded	-
November	102.289	3.55
December	Not Traded	-
Average	102.289	3.55 %

Source: Bloomberg

Kansas City Southern Corp.		
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29	Type:	Senior Note
	Description:	KCSM
	CUSIP:	485161AQ6
	Coupon Rate:	2.350%
	Maturity Date:	5/15/2020
	Amount Outstanding (\$ 000)	\$274,752
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	95.152	3.21 %
February	95.566	3.14
March	94.724	3.31
April	95.400	3.20
May	96.661	2.97
June	95.539	3.19
July	97.318	2.85
August	95.777	3.16
September	95.510	3.23
October	96.950	2.95
November	96.566	3.04
December	95.649	3.24
Average	95.901	3.12 %

Source: Bloomberg

Kansas City Southern Corp.		
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30	Type:	Senior Note
	Description:	KCSM
	CUSIP:	485161AS2
	Coupon Rate:	3.000%
	Maturity Date:	5/15/2023
	Amount Outstanding (\$ 000)	\$448,411
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	93.645	3.82 %
February	93.141	3.89
March	92.756	3.95
April	93.496	3.86
May	95.318	3.62
June	94.978	3.67
July	95.405	3.61
August	96.609	3.45
September	95.305	3.64
October	97.077	3.40
November	96.894	3.43
December	98.195	3.25
Average	95.235	3.63 %

Source: Bloomberg

Kansas City Southern Corp.		
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31	Type:	Senior Note
	Description:	KCSM
	CUSIP:	485161AU7
	Coupon Rate:	0.933% (Varies)
	Maturity Date:	10/28/2016
	Amount Outstanding (\$ 000)	\$250,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	100.544	0.74
March	100.500	0.75
April	100.507	0.73
May	100.417	0.76
June	100.590	0.68
July	Not Traded	-
August	100.547	0.68
September	100.612	0.64
October	100.081	0.89
November	100.043	0.91
December	100.170	0.87
Average	100.401	0.77 %

Source: Bloomberg

Norfolk Southern Corp.		
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32	Type:	Debenture
	Description:	Southern Railway
	CUSIP:	655855FA7
	Coupon Rate:	9.750%
	Maturity Date:	6/15/2020
	Amount Outstanding (\$ 000)	\$313,741
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	134.857	3.57 %
February	138.865	2.93
March	138.753	2.88
April	136.125	3.20
May	Not Traded	-
June	137.673	2.88
July	136.521	2.94
August	135.385	3.03
September	132.498	3.43
October	Not Traded	-
November	134.610	2.95
December	133.722	3.01
Average	135.901	3.08 %

Source: Bloomberg

Norfolk Southern Corp.		
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33	Type:	Debenture
	Description:	Conrail
	CUSIP:	655855FB5
	Coupon Rate:	7.875%
	Maturity Date:	5/15/2043
	Amount Outstanding (\$ 000)	\$138,085
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	146.544	4.86
June	146.349	4.87
July	144.766	4.94
August	153.258	4.54
September	Not Traded	-
October	Not Traded	-
November	Not Traded	-
December	Not Traded	-
Average	147.729	4.80 %

Source: Bloomberg

Norfolk Southern Corp.

34	Type:	Notes
	Description:	Series A NSC
	CUSIP:	655844AA6
	Coupon Rate:	9.000%
	Maturity Date:	3/1/2021
	Amount Outstanding (\$ 000)	\$83,372
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	125.243	4.73
March	131.378	3.81
April	128.752	4.14
May	128.205	4.17
June	131.409	3.65
July	129.003	3.99
August	131.451	3.54
September	127.219	4.13
October	126.700	4.15
November	Not Traded	-
December	Not Traded	-
Average	128.818	4.03 %

Source: Bloomberg

Norfolk Southern Corp.		
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35	Type:	Notes
	Description:	Senior
	CUSIP:	655844AQ1
	Coupon Rate:	7.250%
	Maturity Date:	2/15/2031
	Amount Outstanding (\$ 000)	\$316,316
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	128.442	4.79 %
February	129.724	4.69
March	130.352	4.64
April	130.133	4.64
May	134.988	4.29
June	135.548	4.25
July	135.445	4.25
August	137.170	4.12
September	135.251	4.24
October	137.318	4.09
November	136.503	4.14
December	137.968	4.03
Average	134.070	4.35 %

Source: Bloomberg

Norfolk Southern Corp.		
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36	Type:	Notes
	Description:	Senior
	CUSIP:	655844AZ1
	Coupon Rate:	5.750%
	Maturity Date:	4/1/2018
	Amount Outstanding (\$ 000)	\$595,925
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	115.157	1.95 %
February	115.756	1.73
March	114.227	2.03
April	114.648	1.87
May	115.059	1.67
June	114.603	1.71
July	113.273	1.97
August	114.150	1.68
September	113.229	1.84
October	113.415	1.68
November	113.106	1.69
December	112.333	1.81
Average	114.080	1.80 %

Source: Bloomberg

Note: This is the exchange-traded portion of these notes. The Rule 144-A portion of these notes has a different CUSIP, and is shown on the next page.

Norfolk Southern Corp.		
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37	Type:	Notes
	Description:	Senior 144A
	CUSIP:	655844AY4
	Coupon Rate:	5.750%
	Maturity Date:	4/1/2018
	Amount Outstanding (\$ 000)	\$4,075
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	115.154	1.94 %
February	115.337	1.83
March	114.212	2.03
April	114.254	1.94
May	114.974	1.69
June	114.449	1.75
July	113.635	1.87
August	113.754	1.76
September	113.028	1.88
October	113.400	1.68
November	113.372	1.61
December	112.277	1.83
Average	113.987	1.82 %

Source: Bloomberg

Note: This is the Rule 144-A portion of these notes, which trades among qualified institutional buyers and has its own CUSIP. The exchange-traded portion of these notes is on the preceding page.

Norfolk Southern Corp.		
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38	Type:	Notes
	Description:	Senior
	CUSIP:	655844BB3
	Coupon Rate:	5.750%
	Maturity Date:	1/15/2016
	Amount Outstanding (\$ 000)	\$499,850
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	109.523	0.80 %
February	109.309	0.76
March	108.460	0.97
April	108.205	0.88
May	108.103	0.70
June	107.719	0.74
July	107.074	0.85
August	106.775	0.76
September	106.228	0.88
October	105.917	0.76
November	105.599	0.72
December	104.989	0.86
Average	107.325	0.81 %

Source: Bloomberg

Note: This is the exchange-traded portion of these notes. The Rule 144-A portion of these notes has a different CUSIP, and is shown on the next page.

Norfolk Southern Corp.

39	Type:	Notes
	Description:	Senior 144A
	CUSIP:	655844BA5
	Coupon Rate:	5.750%
	Maturity Date:	1/15/2016
	Amount Outstanding (\$ 000)	\$150
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	109.327	0.90 %
February	109.082	0.82
March	108.521	0.92
April	108.240	0.84
May	107.901	0.81
June	107.572	0.77
July	107.025	0.85
August	106.745	0.77
September	106.177	0.90
October	105.886	0.79
November	105.540	0.76
December	104.962	0.88
Average	107.248	0.83 %

Source: Bloomberg

Note: This is the Rule 144-A portion of these notes, which trades among qualified institutional buyers and has its own CUSIP. The exchange-traded portion of these notes is on the preceding page.

Norfolk Southern Corp.		
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40	Type:	Notes
	Description:	Senior
	CUSIP:	655844BC1
	Coupon Rate:	5.900%
	Maturity Date:	6/15/2019
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	116.844	2.52 %
February	117.088	2.47
March	116.065	2.58
April	117.037	2.34
May	117.690	2.17
June	117.282	2.20
July	116.479	2.30
August	116.918	2.17
September	115.328	2.43
October	116.888	2.06
November	115.969	2.18
December	114.627	2.42
Average	116.518	2.32 %

Source: Bloomberg

Norfolk Southern Corp.		
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41	Type:	Notes
	Description:	Senior
	CUSIP:	655844BG2
	Coupon Rate:	3.250%
	Maturity Date:	12/1/2021
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	100.897	3.12 %
February	101.162	3.08
March	101.418	3.04
April	101.543	3.02
May	102.862	2.82
June	102.438	2.88
July	101.724	2.99
August	103.385	2.73
September	104.098	2.62
October	102.616	2.84
November	103.725	2.66
December	102.310	2.88
Average	102.348	2.89 %

Source: Bloomberg

Norfolk Southern Corp.

42	Type:	Notes
	Description:	Senior
	CUSIP:	655844BJ6
	Coupon Rate:	3.000%
	Maturity Date:	4/1/2022
	Amount Outstanding (\$ 000)	\$600,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	97.608	3.34 %
February	98.384	3.23
March	98.404	3.23
April	99.890	3.02
May	100.155	2.98
June	102.404	2.65
July	99.286	3.11
August	100.580	2.91
September	99.335	3.10
October	101.225	2.82
November	100.687	2.90
December	100.437	2.93
Average	99.866	3.02 %

Source: Bloomberg

Norfolk Southern Corp.		
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43	Type:	Notes
	Description:	Senior
	CUSIP:	655844BL1
	Coupon Rate:	2.903%
	Maturity Date:	2/15/2023
	Amount Outstanding (\$ 000)	\$596,450
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	95.310	3.51 %
February	97.700	3.20
March	95.289	3.53
April	96.367	3.38
May	98.205	3.14
June	97.349	3.26
July	97.730	3.21
August	98.059	3.17
September	97.230	3.28
October	98.087	3.17
November	98.848	3.06
December	98.593	3.10
Average	97.397	3.25 %

Source: Bloomberg

Note: This is the exchange-traded portion of these notes. The Rule 144-A portion of these notes has a different CUSIP, and is shown on the next page.

Norfolk Southern Corp.

44	Type:	Notes
	Description:	Senior 144A
	CUSIP:	655844BK3
	Coupon Rate:	2.903%
	Maturity Date:	2/15/2023
	Amount Outstanding (\$ 000)	\$3,550
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	95.530	3.48 %
February	95.851	3.45
March	95.278	3.53
April	96.471	3.37
May	97.835	3.19
June	97.661	3.22
July	97.160	3.29
August	98.456	3.11
September	96.856	3.34
October	97.997	3.18
November	98.873	3.06
December	99.117	3.03
Average	97.257	3.27 %

Source: Bloomberg

Note: This is the Rule 144-A portion of these notes, which trades among qualified institutional buyers and has its own CUSIP. The exchange-traded portion of these notes is on the preceding page.

Norfolk Southern Corp.

45	Type:	Notes
	Description:	Senior
	CUSIP:	655844BD9
	Coupon Rate:	6.000%
	Maturity Date:	5/23/2111
	Amount Outstanding (\$ 000)	\$504,492
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	113.095	5.30 %
February	114.076	5.26
March	115.690	5.18
April	117.830	5.09
May	119.455	5.02
June	118.192	5.07
July	122.751	4.88
August	124.890	4.79
September	120.561	4.97
October	123.677	4.84
November	128.900	4.64
December	130.576	4.58
Average	120.808	4.97 %

Source: Bloomberg

\$404,492	}	same CUSIP
<u>100,000</u>		
\$504,492		

Norfolk Southern Corp.

46	Type:	Notes
	Description:	Senior 2105
	CUSIP:	655844AV0
	Coupon Rate:	6.000%
	Maturity Date:	3/15/2105
	Amount Outstanding (\$ 000)	\$550,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	109.953	5.45 %
February	115.097	5.21
March	113.877	5.26
April	115.792	5.18
May	116.619	5.14
June	119.834	5.00
July	123.595	4.84
August	119.301	5.02
September	116.992	5.12
October	123.617	4.84
November	121.331	4.93
December	133.413	4.48
Average	119.118	5.04 %

Source: Bloomberg

\$300,000	}	same CUSIP
<u>250,000</u>		
\$550,000		

Norfolk Southern Corp.		
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47	Type:	Notes
	Description:	Senior
	CUSIP:	655844AX6
	Coupon Rate:	5.640%
	Maturity Date:	5/17/2029
	Amount Outstanding (\$ 000)	\$210,316
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	111.139	4.62 %
February	113.834	4.38
March	110.419	4.67
April	116.841	4.13
May	117.329	4.08
June	117.075	4.10
July	117.948	4.02
August	117.516	4.05
September	115.161	4.24
October	115.500	4.20
November	117.569	4.03
December	118.264	3.96
Average	115.716	4.21 %

Source: Bloomberg

Norfolk Southern Corp.

48	Type:	Notes
	Description:	Senior
	CUSIP:	655844AW8
	Coupon Rate:	5.590%
	Maturity Date:	5/17/2025
	Amount Outstanding (\$ 000)	\$251,172
	Months Outstanding	12.0

En End of Month in 20'	Price	Yield
January	115.482	3.88 %
February	113.534	4.08
March	113.993	4.02
April	116.518	3.75
May	116.302	3.76
June	117.007	3.68
July	119.263	3.44
August	Not Traded	-
September	113.672	4.00
October	116.816	3.65
November	117.770	3.55
December	118.298	3.48
Average	116.241	3.75 %

Source: Bloomberg

Norfolk Southern Corp.

49	Type:	Notes
	Description:	Senior
	CUSIP:	655844BH0
	Coupon Rate:	4.837%
	Maturity Date:	10/1/2041
	Amount Outstanding (\$ 000)	\$595,504
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	101.002	4.77 %
February	102.949	4.65
March	103.600	4.61
April	104.886	4.52
May	107.368	4.37
June	106.773	4.41
July	106.354	4.43
August	109.012	4.27
September	108.109	4.33
October	109.166	4.26
November	108.983	4.27
December	111.603	4.12
Average	106.650	4.42 %

Source: Bloomberg

\$595,502	}	same CUSIP
<u>2</u>		
\$595,504		

Norfolk Southern Corp.		
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50	Type:	Notes
	Description:	Senior
	CUSIP:	655844BM9
	Coupon Rate:	3.950%
	Maturity Date:	10/1/2042
	Amount Outstanding (\$ 000)	\$600,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	88.410	4.69 %
February	88.339	4.70
March	91.517	4.48
April	93.000	4.38
May	94.639	4.28
June	94.490	4.29
July	93.790	4.33
August	96.587	4.16
September	94.179	4.31
October	96.309	4.18
November	95.772	4.21
December	98.914	4.02
Average	93.829	4.34 %

Source: Bloomberg

Norfolk Southern Corp.		
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51	Type:	Notes
	Description:	Senior
	CUSIP:	655844BN7
	Coupon Rate:	4.800%
	Maturity Date:	8/15/2043
	Amount Outstanding (\$ 000)	\$500,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	101.161	4.73 %
February	102.017	4.67
March	103.205	4.60
April	106.520	4.40
May	107.915	4.32
June	106.656	4.39
July	106.480	4.40
August	110.453	4.17
September	107.033	4.37
October	108.821	4.27
November	108.723	4.27
December	111.580	4.11
Average	106.714	4.39 %

Source: Bloomberg

Norfolk Southern Corp.		
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52	Type:	Notes
	Description:	Senior
	CUSIP:	655844BP2
	Coupon Rate:	3.850%
	Maturity Date:	1/15/2024
	Amount Outstanding (\$ 000)	\$400,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	101.687	3.65 %
February	102.172	3.59
March	102.381	3.56
April	103.066	3.47
May	104.348	3.32
June	103.907	3.37
July	103.705	3.39
August	105.675	3.15
September	103.877	3.36
October	104.774	3.25
November	105.580	3.14
December	105.218	3.18
Average	103.866	3.37 %

Source: Bloomberg

Norfolk Southern Corp.		
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53	Type:	Conrail Notes
	Description:	CR NSC 2017
	CUSIP:	655844AE8
	Coupon Rate:	7.700%
	Maturity Date:	5/15/2017
	Amount Outstanding (\$ 000)	\$550,000
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	119.301	1.64 %
February	119.798	1.38
March	118.693	1.53
April	118.419	1.46
May	118.692	1.22
June	117.627	1.40
July	117.154	1.41
August	116.444	1.47
September	115.529	1.61
October	115.558	1.41
November	115.324	1.33
December	113.733	1.79
Average	117.189	1.47 %

Source: Bloomberg

Norfolk Southern Corp.

54	Type:	Conrail Notes
	Description:	CR NSC 2027
	CUSIP:	655844AJ7
	Coupon Rate:	7.800%
	Maturity Date:	5/15/2027
	Amount Outstanding (\$ 000)	\$368,199
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	129.349	4.79 %
February	134.405	4.35
March	135.118	4.28
April	134.920	4.28
May	135.360	4.23
June	137.486	4.04
July	134.850	4.24
August	134.838	4.23
September	136.834	4.04
October	137.626	3.96
November	136.507	4.05
December	Not Traded	-
Average	135.208	4.23 %

Source: Bloomberg

Norfolk Southern Corp.

55	Type:	Conrail Notes
	Description:	CR NSC 2037
	CUSIP:	655844AF5
	Coupon Rate:	7.050%
	Maturity Date:	5/1/2037
	Amount Outstanding (\$ 000)	\$256,690
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	129.219	4.93 %
February	Not Traded	-
March	Not Traded	-
April	135.427	4.55
May	134.741	4.59
June	Not Traded	-
July	137.251	4.43
August	Not Traded	-
September	Not Traded	-
October	136.626	4.46
November	138.028	4.37
December	140.492	4.23
Average	135.969	4.51 %

Source: Bloomberg

Norfolk Southern Corp.		
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56	Type:	Conrail Notes
	Description:	CR NSC 2097
	CUSIP:	655844AK4
	Coupon Rate:	7.900%
	Maturity Date:	5/15/2097
	Amount Outstanding (\$ 000)	\$273,317
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	155.005	5.07
September	150.500	5.22
October	154.301	5.09
November	159.792	4.91
December	164.927	4.75
Average	156.905	5.01 %

Source: Bloomberg

Union Pacific Corp.		
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57	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818CS5
	Coupon Rate:	5.375%
	Maturity Date:	6/1/2033
	Amount Outstanding (\$ 000)	\$198,634
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	103.537	5.09 %
February	106.569	4.85
March	109.101	4.65
April	Not Traded	-
May	110.940	4.51
June	111.293	4.48
July	112.807	4.37
August	114.357	4.26
September	113.489	4.32
October	117.070	4.06
November	Not Traded	-
December	117.818	4.00
Average	111.698	4.46 %

Source: Bloomberg

Union Pacific Corp.		
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58	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818CX4
	Coupon Rate:	6.150%
	Maturity Date:	5/1/2037
	Amount Outstanding (\$ 000)	\$111,977
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	118.899	4.79 %
February	118.890	4.79
March	120.368	4.70
April	124.446	4.44
May	126.003	4.35
June	127.822	4.24
July	Not Traded	-
August	Not Traded	-
September	122.998	4.52
October	125.538	4.36
November	Not Traded	-
December	Not Traded	-
Average	123.121	4.52 %

Source: Bloomberg

Union Pacific Corp.		
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59	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818CU0
	Coupon Rate:	6.250%
	Maturity Date:	5/1/2034
	Amount Outstanding (\$ 000)	\$227,939
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	115.750	5.00 %
February	115.766	5.00
March	121.178	4.62
April	121.362	4.60
May	122.425	4.53
June	124.875	4.36
July	122.468	4.52
August	122.792	4.49
September	122.006	4.54
October	Not Traded	-
November	Not Traded	-
December	131.375	3.93
Average	122.000	4.56 %

Source: Bloomberg

Union Pacific Corp.		
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60	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818CF3
	Coupon Rate:	6.625%
	Maturity Date:	2/1/2029
	Amount Outstanding (\$ 000)	\$419,733
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	125.154	4.33 %
February	124.287	4.40
March	128.464	4.05
April	127.706	4.10
May	132.223	3.75
June	129.630	3.94
July	130.701	3.85
August	131.621	3.77
September	Not Traded	-
October	133.630	3.59
November	131.775	3.73
December	134.005	3.54
Average	129.927	3.91 %

Source: Bloomberg

Union Pacific Corp.		
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61	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818AZ1
	Coupon Rate:	7.000%
	Maturity Date:	2/1/2016
	Amount Outstanding (\$ 000)	\$203,431
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	112.478	0.71 %
February	110.053	1.69
March	110.837	1.02
April	110.207	1.09
May	110.618	0.56
June	109.641	1.00
July	109.260	0.87
August	108.680	0.79
September	108.200	0.78
October	107.203	1.23
November	106.986	0.95
December	106.610	0.97
Average	109.231	0.97 %

Source: Bloomberg

Union Pacific Corp.		
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62	Type:	Debentures
	Description:	UP Corp.
	CUSIP:	907818BY3
	Coupon Rate:	7.125%
	Maturity Date:	2/1/2028
	Amount Outstanding (\$ 000)	\$175,639
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	126.994	4.50 %
February	127.388	4.46
March	127.442	4.45
April	129.714	4.25
May	133.133	3.96
June	132.595	3.99
July	131.750	4.05
August	134.808	3.79
September	132.034	4.00
October	134.256	3.81
November	135.858	3.67
December	136.603	3.59
Average	131.881	4.04 %

Source: Bloomberg

Union Pacific Corp.		
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63	Type:	Notes
	Description:	UP Corp. (new)
	CUSIP:	907818DW5
	Coupon Rate:	2.250%
	Maturity Date:	2/15/2019
	Amount Outstanding (\$ 000)	\$299,678
	Months Outstanding	11.5

End of Month in 2014	Price	Yield
January	101.288	1.98 %
February	101.358	1.96
March	100.245	2.20
April	101.402	1.94
May	102.098	1.78
June	101.628	1.88
July	101.157	1.98
August	101.782	1.83
September	101.392	1.92
October	101.441	1.90
November	101.678	1.83
December	101.746	1.81
Average	101.435	1.92 %

Source: Bloomberg

Union Pacific Corp.		
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64	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DN5
	Coupon Rate:	2.750%
	Maturity Date:	4/15/2023
	Amount Outstanding (\$ 000)	\$323,350
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	93.378	3.60 %
February	94.261	3.49
March	96.108	3.25
April	96.024	3.27
May	98.486	2.95
June	101.190	2.60
July	97.624	3.06
August	100.450	2.69
September	97.532	3.08
October	98.860	2.90
November	98.550	2.95
December	99.226	2.86
Average	97.641	3.06 %

Source: Bloomberg

Union Pacific Corp.		
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65	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DM7
	Coupon Rate:	2.950%
	Maturity Date:	1/15/2023
	Amount Outstanding (\$ 000)	\$299,865
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	96.419	3.42 %
February	96.267	3.44
March	98.093	3.20
April	97.772	3.25
May	100.399	2.90
June	100.131	2.93
July	98.749	3.12
August	101.235	2.78
September	99.016	3.09
October	101.097	2.80
November	101.251	2.78
December	101.302	2.77
Average	99.311	3.04 %

Source: Bloomberg

Union Pacific Corp.		
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66	Type:	Notes
	Description:	UP Corp. (new)
	CUSIP:	907818DY1
	Coupon Rate:	3.250%
	Maturity Date:	1/15/2025
	Amount Outstanding (\$ 000)	\$348,877
	Months Outstanding	4.5

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	102.055	3.02
September	99.402	3.32
October	101.019	3.13
November	101.943	3.03
December	103.619	2.83
Average	101.608	3.07 %

Source: Bloomberg

Union Pacific Corp.		
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67	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DR6
	Coupon Rate:	3.646%
	Maturity Date:	2/15/2024
	Amount Outstanding (\$ 000)	\$355,689
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	99.820	3.67 %
February	100.822	3.55
March	100.217	3.62
April	101.589	3.45
May	105.155	3.03
June	103.770	3.19
July	102.651	3.32
August	104.867	3.05
September	102.722	3.31
October	105.051	3.02
November	104.438	3.09
December	106.084	2.88
Average	103.099	3.27 %

Source: Bloomberg

Union Pacific Corp.		
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68	Type:	Notes
	Description:	UP Corp. (new)
	CUSIP:	907818DV7
	Coupon Rate:	3.750%
	Maturity Date:	3/15/2024
	Amount Outstanding (\$ 000)	\$397,225
	Months Outstanding	11.5

End of Month in 2014	Price	Yield
January	101.262	3.60 %
February	101.955	3.52
March	101.267	3.60
April	102.998	3.39
May	105.822	3.06
June	104.867	3.16
July	103.914	3.27
August	105.963	3.03
September	104.112	3.24
October	106.107	3.00
November	106.347	2.96
December	106.769	2.91
Average	104.282	3.23 %

Source: Bloomberg

Union Pacific Corp.		
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69	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DG0
	Coupon Rate:	4.000%
	Maturity Date:	2/1/2021
	Amount Outstanding (\$ 000)	\$498,500
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	105.207	3.16 %
February	106.683	2.92
March	107.045	2.86
April	107.924	2.71
May	109.570	2.43
June	108.805	2.54
July	107.988	2.65
August	109.514	2.39
September	107.673	2.67
October	108.713	2.48
November	109.319	2.37
December	109.139	2.38
Average	108.132	2.63 %

Source: Bloomberg

Union Pacific Corp.

70	Type:	Notes
	Description:	UP Corp. (new)
	CUSIP:	907818DZ8
	Coupon Rate:	4.150%
	Maturity Date:	1/15/2045
	Amount Outstanding (\$ 000)	\$344,685
	Months Outstanding	4.5

End of Month in 2014	Price	Yield
January	Not Traded	- %
February	Not Traded	-
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	101.654	4.06
September	98.388	4.25
October	101.041	4.09
November	102.098	4.03
December	104.883	3.87
Average	101.613	4.06 %

Source: Bloomberg

Union Pacific Corp.		
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71	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DK1
	Coupon Rate:	4.163%
	Maturity Date:	7/15/2022
	Amount Outstanding (\$ 000)	\$627,519
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	106.257	3.31 %
February	106.479	3.27
March	105.951	3.33
April	107.814	3.08
May	111.919	2.53
June	109.137	2.88
July	108.879	2.90
August	110.069	2.73
September	109.135	2.85
October	109.460	2.79
November	110.034	2.70
December	109.860	2.71
Average	108.750	2.92 %

Source: Bloomberg

Union Pacific Corp.		
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72	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DP0
	Coupon Rate:	4.250%
	Maturity Date:	4/15/2043
	Amount Outstanding (\$ 000)	\$320,614
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	94.140	4.62 %
February	93.923	4.63
March	95.471	4.53
April	97.777	4.39
May	101.603	4.15
June	100.851	4.20
July	102.014	4.13
August	102.943	4.08
September	100.260	4.23
October	102.986	4.07
November	102.071	4.13
December	104.702	3.97
Average	99.895	4.26 %

Source: Bloomberg

Union Pacific Corp.		
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73	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DL9
	Coupon Rate:	4.300%
	Maturity Date:	6/15/2042
	Amount Outstanding (\$ 000)	\$299,662
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	94.346	4.66 %
February	94.351	4.66
March	97.269	4.47
April	98.043	4.42
May	101.703	4.20
June	101.815	4.19
July	101.695	4.20
August	103.011	4.12
September	103.389	4.09
October	104.531	4.03
November	101.784	4.19
December	103.414	4.09
Average	100.446	4.28 %

Source: Bloomberg

Union Pacific Corp.		
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74	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DJ4
	Coupon Rate:	4.750%
	Maturity Date:	9/15/2041
	Amount Outstanding (\$ 000)	\$490,682
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	102.118	4.61 %
February	101.714	4.64
March	102.505	4.59
April	105.317	4.41
May	109.984	4.14
June	108.469	4.22
July	108.422	4.23
August	111.422	4.05
September	107.463	4.28
October	110.462	4.10
November	110.085	4.12
December	112.945	3.96
Average	107.576	4.28 %

Source: Bloomberg

Union Pacific Corp.		
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75	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DU9
	Coupon Rate:	4.750%
	Maturity Date:	12/15/2043
	Amount Outstanding (\$ 000)	\$499,794
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	102.150	4.62 %
February	102.875	4.57
March	103.697	4.52
April	105.927	4.39
May	109.853	4.17
June	109.233	4.20
July	108.477	4.24
August	110.918	4.11
September	106.896	4.33
October	109.652	4.17
November	110.452	4.13
December	111.115	4.09
Average	107.604	4.30 %

Source: Bloomberg

Union Pacific Corp.		
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76	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DT2
	Coupon Rate:	4.821%
	Maturity Date:	2/1/2044
	Amount Outstanding (\$ 000)	\$470,304
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	103.202	4.62 %
February	104.350	4.55
March	105.193	4.50
April	108.005	4.34
May	110.524	4.20
June	110.367	4.21
July	109.094	4.28
August	109.612	4.25
September	108.801	4.29
October	111.196	4.16
November	112.327	4.09
December	113.181	4.05
Average	108.821	4.30 %

Source: Bloomberg

Union Pacific Corp.		
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77	Type:	Notes
	Description:	UP Corp. (new)
	CUSIP:	907818DX3
	Coupon Rate:	4.850%
	Maturity Date:	6/15/2044
	Amount Outstanding (\$ 000)	\$298,145
	Months Outstanding	11.5

End of Month in 2014	Price	Yield
January	103.598	4.63 %
February	104.529	4.57
March	106.000	4.49
April	108.260	4.36
May	111.340	4.18
June	110.401	4.23
July	110.400	4.23
August	111.069	4.20
September	110.459	4.23
October	111.127	4.19
November	111.567	4.17
December	114.194	4.02
Average	109.412	4.29 %

Source: Bloomberg

Union Pacific Corp.		
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78	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818CW6
	Coupon Rate:	5.650%
	Maturity Date:	5/1/2017
	Amount Outstanding (\$ 000)	\$193,705
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	109.213	2.68 %
February	112.000	1.75
March	111.908	1.67
April	111.400	1.73
May	113.250	1.02
June	111.960	1.33
July	111.439	1.38
August	111.354	1.29
September	109.817	1.77
October	110.658	1.29
November	109.858	1.51
December	109.250	1.60
Average	111.009	1.59 %

Source: Bloomberg

Union Pacific Corp.		
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79	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DA3
	Coupon Rate:	5.700%
	Maturity Date:	8/15/2018
	Amount Outstanding (\$ 000)	\$368,752
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	113.810	2.46 %
February	115.913	1.95
March	114.799	2.13
April	114.200	2.21
May	115.990	1.73
June	115.624	1.75
July	114.301	1.99
August	115.158	1.72
September	113.900	1.96
October	114.625	1.69
November	114.290	1.70
December	112.600	2.07
Average	114.601	1.95 %

Source: Bloomberg

Union Pacific Corp.

80	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818CZ9
	Coupon Rate:	5.750%
	Maturity Date:	11/15/2017
	Amount Outstanding (\$ 000)	\$251,906
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	114.911	1.66 %
February	114.497	1.71
March	114.192	1.69
April	114.446	1.54
May	114.833	1.33
June	114.418	1.40
July	113.943	1.40
August	113.241	1.50
September	112.005	1.78
October	112.692	1.45
November	112.744	1.33
December	110.779	1.86
Average	113.558	1.55 %

Source: Bloomberg

Union Pacific Corp.		
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81	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DF2
	Coupon Rate:	5.780%
	Maturity Date:	7/15/2040
	Amount Outstanding (\$ 000)	\$65,649
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	114.596	4.80 %
February	115.159	4.76
March	116.360	4.69
April	118.142	4.58
May	121.480	4.39
June	123.108	4.30
July	122.666	4.32
August	125.818	4.14
September	119.463	4.50
October	126.032	4.13
November	127.252	4.06
December	129.828	3.92
Average	121.659	4.38 %

Source: Bloomberg

Union Pacific Corp.

82	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DD7
	Coupon Rate:	6.125%
	Maturity Date:	2/15/2020
	Amount Outstanding (\$ 000)	\$162,164
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	118.061	2.85 %
February	117.300	2.94
March	116.190	3.09
April	115.700	3.14
May	117.862	2.72
June	117.944	2.69
July	116.305	2.93
August	Not Traded	-
September	115.873	2.91
October	118.094	2.45
November	Not Traded	-
December	116.143	2.72
Average	116.947	2.84 %

Source: Bloomberg

Union Pacific Corp.		
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83	Type:	Notes
	Description:	UP Corp.
	CUSIP:	907818DB1
	Coupon Rate:	7.875%
	Maturity Date:	1/15/2019
	Amount Outstanding (\$ 000)	\$158,387
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	123.544	2.75 %
February	125.290	2.40
March	123.540	2.61
April	123.967	2.46
May	122.514	2.73
June	123.231	2.47
July	121.619	2.68
August	122.220	2.47
September	121.606	2.56
October	122.376	2.26
November	122.215	2.23
December	121.689	2.22
Average	122.818	2.49 %

Source: Bloomberg

Union Pacific Corp.		
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84	Type:	Mort. Bond
	Description:	UPRR-MP
	CUSIP:	606198LF4
	Coupon Rate:	4.750%
	Maturity Date:	1/1/2020
	Amount Outstanding (\$ 000)	\$29,905
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	92.000	6.41 %
February	100.000	4.75
March	99.003	4.95
April	100.000	4.75
May	100.484	4.64
June	100.000	4.74
July	96.000	5.62
August	Not Traded	-
September	100.500	4.64
October	99.800	4.79
November	Not Traded	-
December	100.000	4.75
Average	98.779	5.00 %

Source: Bloomberg

Union Pacific Corp.		
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85	Type:	Mort. Bond
	Description:	UPRR-MP
	CUSIP:	606198LG2
	Coupon Rate:	4.750%
	Maturity Date:	1/1/2030
	Amount Outstanding (\$ 000)	\$27,381
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	95.000	5.22 %
February	95.023	5.22
March	95.500	5.17
April	97.125	5.02
May	96.500	5.08
June	94.500	5.28
July	98.500	4.89
August	99.000	4.84
September	97.600	4.98
October	100.000	4.75
November	99.950	4.75
December	99.750	4.77
Average	97.371	5.00 %

Source: Bloomberg

Union Pacific Corp.		
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86	Type:	Debentures
	Description:	UPRR-MP
	CUSIP:	606198LH0
	Coupon Rate:	5.000%
	Maturity Date:	1/1/2045
	Amount Outstanding (\$ 000)	\$96,025
	Months Outstanding	12.0

End of Month in 2014	Price	Yield
January	85.000	6.09 %
February	84.815	6.10
March	88.450	5.81
April	84.500	6.13
May	86.500	5.97
June	89.810	5.71
July	82.812	6.28
August	96.000	5.27
September	93.250	5.46
October	93.000	5.48
November	95.000	5.34
December	93.150	5.47
Average	89.357	5.76 %

Source: Bloomberg

Union Pacific Corp.

87	Type:	Debentures
	Description:	MP C&EI UPRR
	CUSIP:	167123AP3
	Coupon Rate:	5.000%
	Maturity Date:	1/1/2054
	Amount Outstanding (\$ 000)	\$1,641
	Months Outstanding	12.0

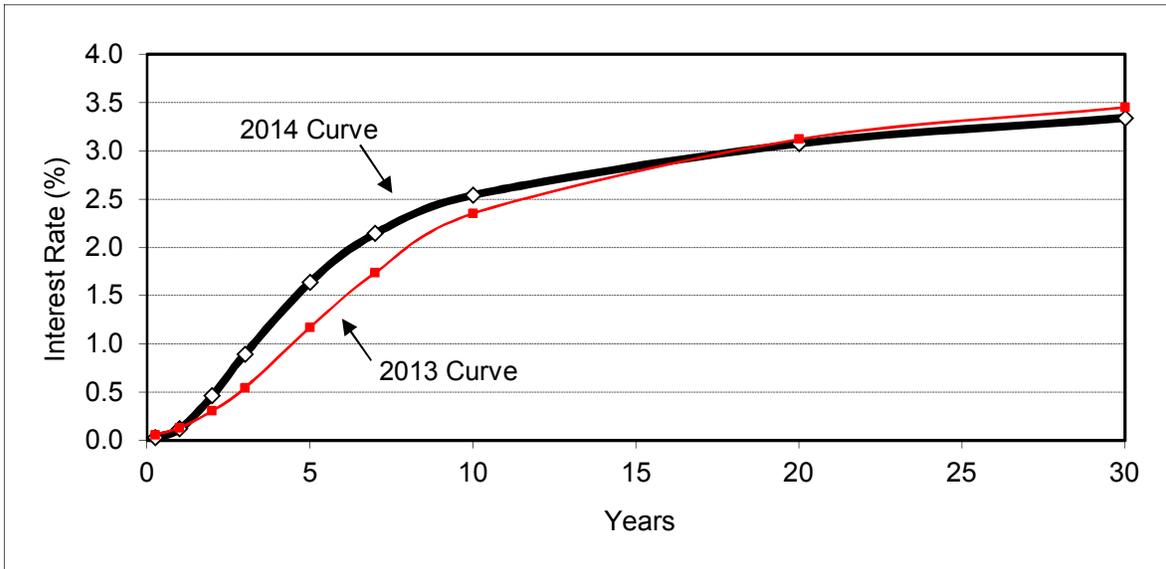
End of Month in 2014	Price	Yield
January	Not Traded	- %
February	68.551	7.49
March	Not Traded	-
April	Not Traded	-
May	Not Traded	-
June	Not Traded	-
July	Not Traded	-
August	Not Traded	-
September	Not Traded	-
October	Not Traded	-
November	Not Traded	-
December	Not Traded	-
Average	68.551	7.49 %

Source: Bloomberg

Interest Rates on Selected Government Instruments

Yield in Percent Per Annum, Constant Maturity Rates for 2014

	3 Mo.	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
January	0.04	0.12	0.39	0.78	1.65	2.29	2.86	3.52	3.77
February	0.05	0.12	0.33	0.69	1.52	2.15	2.71	3.38	3.66
March	0.05	0.13	0.40	0.82	1.64	2.23	2.72	3.35	3.62
April	0.03	0.11	0.42	0.88	1.70	2.27	2.71	3.27	3.52
May	0.03	0.10	0.39	0.83	1.59	2.12	2.56	3.12	3.39
June	0.04	0.10	0.45	0.90	1.68	2.19	2.60	3.15	3.42
July	0.03	0.11	0.51	0.97	1.70	2.17	2.54	3.07	3.33
August	0.03	0.11	0.47	0.93	1.63	2.08	2.42	2.94	3.20
September	0.02	0.11	0.57	1.05	1.77	2.22	2.53	3.01	3.26
October	0.02	0.10	0.45	0.88	1.55	1.98	2.30	2.77	3.04
November	0.02	0.13	0.53	0.96	1.62	2.03	2.33	2.76	3.04
December	0.03	0.21	0.64	1.06	1.64	1.98	2.21	2.55	2.83
Average	0.03	0.12	0.46	0.90	1.64	2.14	2.54	3.07	3.34



Source: Federal Reserve statistical release H.15, Treasury Constant Maturities, Nominal

Equipment Trust Certificates for CSX

Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)			Current Valuation		Current	
		Beg.	Ending	Avg O/S	Interest Rate	Valuation Factor	Market Value	Interest
1.				--			--	--
2.				--			--	--
3.				--			--	--
4.				--			--	--
5.				--			--	--
6.				--			--	--
7.				--			--	--
8.				--			--	--
9.				--			--	--
10.				--			--	--
11.				--			--	--
12.				--			--	--
13.				--			--	--
14.				--			--	--
15.				--			--	--
Total		\$0	\$0	\$0	--		\$0	\$0

Note:
This list contains ETCs that can be used in the AAR's model to determine market value. Some debt instruments labeled as ETCs do not have all of the characteristics typical of an ETC, and therefore cannot be modeled. For example, ETCs with variable rates cannot be modeled.

Non-Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Equipment Trust Certificates for CSX (continued)

Entire ETC Current – Not Used for Cost or Market Value

ETC ID	Maturity	<u>Balance 2014 (\$000)</u>	
		Beg.	Ending
1. ETC CSX Series B 239	4/1/15	10,200	5,100
2. ETC CSX Series B 240	5/15/15	8,400	4,200
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$18,600	\$9,300

Grand Totals (for reconciliation to carrier data)

	<u>Balance For 2014 (\$000)</u>	
	Beg.	Ending
Total Modeled	\$0	\$0
Total Non-Modeled	0	0
Sub Total	0	0
Total All Current	18,600	9,300
Grand Total	\$18,600	\$9,300
From CSX:		
Total ETCs	\$18,600	\$9,300
Difference		\$0

Equipment Trust Certificates for KCS

Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)			Current Valuation		Current	
		Beg.	Ending	Avg O/S	Interest Rate	Valuation Factor	Market Value	Interest
1. [None]				--			--	--
2.				--			--	--
3.				--			--	--
4.				--			--	--
5.				--			--	--
6.				--			--	--
7.				--			--	--
8.				--			--	--
9.				--			--	--
10.				--			--	--
11.				--			--	--
12.				--			--	--
13.				--			--	--
14.				--			--	--
15.				--			--	--
Total		\$0	\$0	\$0	--		\$0	\$0

Note:
 This list contains ETCs that can be used in the AAR's model to determine market value. Some debt instruments labeled as ETCs do not have all of the characteristics typical of an ETC, and therefore cannot be modeled. For example, ETCs with variable rates cannot be modeled.

Non-Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)	
		Beg.	Ending
1. [None]			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Equipment Trust Certificates for KCS (continued)

Entire ETC Current – Not Used for Cost or Market Value

ETC ID	Maturity	Balance 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
<hr/> Total		\$0	\$0

Grand Totals (for reconciliation to carrier data)

	Balance For 2014 (\$000)	
	Beg.	Ending
Total Modeled	\$0	\$0
Total Non-Modeled	0	0
<hr/> Sub Total	0	0
Total All Current	0	0
<hr/> Grand Total	\$0	\$0
From KCS:		
Total ETCs		\$0
Difference		\$0

Equipment Trust Certificates for NS

Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)			Current Valuation		Current	
		Beg.	Ending	Avg O/S	Interest Rate	Valuation Factor	Market Value	Interest
1. [None]				--			--	--
2.				--			--	--
3.				--			--	--
4.				--			--	--
5.				--			--	--
6.				--			--	--
7.				--			--	--
8.				--			--	--
9.				--			--	--
10.				--			--	--
11.				--			--	--
12.				--			--	--
13.				--			--	--
14.				--			--	--
15.				--			--	--
Total		\$0	\$0	\$0	--		\$0	\$0

Note:
This list contains ETCs that can be used in the AAR's model to determine market value. Some debt instruments labeled as ETCs do not have all of the characteristics typical of an ETC, and therefore cannot be modeled. For example, ETCs with variable rates cannot be modeled.

Non-Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)	
		Beg.	Ending
1. [None]			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Equipment Trust Certificates for NS (continued)

Entire ETC Current – Not Used for Cost or Market Value

ETC ID	Maturity	Balance 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Grand Totals (for reconciliation to carrier data)

	Balance For 2014 (\$000)	
	Beg.	Ending
Total Modeled	\$0	\$0
Total Non-Modeled	0	0
Sub Total	0	0
Total All Current	0	0
Grand Total	\$0	\$0
From NS:		
Total ETCs		\$0
Difference		\$0

Equipment Trust Certificates for UP

Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)			Current Valuation		Current	
		Beg.	Ending	Avg O/S	Interest Rate	Valuation Factor	Market Value	Interest
1. ETC UPC Series I	2/23/19	39,160	30,208	34,684	2.382%	1.14331	39,655	945
2. ETC UPC Series J	1/2/2031	70,834	66,748	68,791	3.527%	1.20609	82,968	2,926
3. ETC UPC Series A	05/14/26	500,288	500,288	500,288	3.278%	0.99849	312,208	10,236
4.				--			--	--
5.				--			--	--
6.				--			--	--
7.				--			--	--
8.				--			--	--
9.				--			--	--
10.				--			--	--
11.				--			--	--
12.				--			--	--
13.				--			--	--
14.				--			--	--
15.				--			--	--
Total		\$610,282	\$597,244	\$603,763	3.244%		\$434,830	\$14,106

New ETC issued 5/20/2014 market value has been pro-rated at (7.5 months / 12 months) times market value of \$499,532.

Note:
This list contains ETCs that can be used in the AAR's model to determine market value. Some debt instruments labeled as ETCs do not have all of the characteristics typical of an ETC, and therefore cannot be modeled. For example, ETCs with variable rates cannot be modeled.

Non-Modeled ETCs

ETC ID	Maturity	Balance For 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Equipment Trust Certificates for UP (continued)

Entire ETC Current – Not Used for Cost or Market Value

ETC ID	Maturity	Balance 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Grand Totals (for reconciliation to carrier data)

	Balance For 2014 (\$000)	
	Beg.	Ending
Total Modeled	\$610,282	\$597,244
Total Non-Modeled	0	0
Sub Total	610,282	597,244
Total All Current	0	0
Grand Total	\$610,282	\$597,244
From UP:		
Total ETCs		\$597,244
Difference		\$0

Equipment Trust Certificates for UP (continued)

Entire ETC Current – Not Used for Cost or Market Value

ETC ID	Maturity	Balance 2014 (\$000)	
		Beg.	Ending
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
Total		\$0	\$0

Grand Totals (for reconciliation to carrier data)

	Balance For 2014 (\$000)	
	Beg.	Ending
Total Modeled	\$610,282	\$597,244
Total Non-Modeled	0	0
Sub Total	610,282	597,244
Total All Current	0	0
Grand Total	\$610,282	\$597,244
From UP:		
Total ETCs		\$597,244
Difference		\$0

2014 Market Value of Debt (\$000)

Type of Debt	Market Value			Percent of	
	Traded or Modeled	Non-Traded or Non-Modeled	Total	Subtotal	Total
Bonds, Notes & Debentures	\$30,554,894	\$597,273	\$31,152,168	98.62%	93.63%
Equipment Trust Certificates	434,830		434,830	1.38%	1.31%
Conditional Sales Agreements	0		0	0.00%	0.00%
Sub Total	\$30,989,724	\$597,273	\$31,586,998	100.00%	94.94%
All Other — Capital Leases		\$1,538,876	\$1,538,876	91.37%	4.63%
All Other — Misc. Debt		145,274	145,274	8.63%	0.44%
All Other — Non-Modeled ETC		0	0	0.00%	0.00%
All Other — Non-Modeled CSA		0	0	0.00%	0.00%
Sub Total			\$1,684,150	100.00%	5.06%
Total Market Value			\$33,271,148		100.00%

General Notes:

Bonds, Notes, and Debentures from Appendix A. Securities that did not trade were assigned a market value equal to their book value. The traded portion accounts for 98.08 percent of the total market value for this category.

Equipment Trust Certificates from Appendix C.

All Conditional Sales Agreements have been retired.

Capital Leases and Miscellaneous Debt listed in work papers.

The capital leases and miscellaneous debt portion of the All Other debt category was assigned a market value equal to its book value, and totals to \$1,684,150 thousand. The non-modeled ETCs and CSAs were also assigned a market value equal to their book value, and totaled to \$0 thousand. The All Other category totals to \$1,684,150 thousand, or 5.1 percent of total debt.

If negative numbers appear in Miscellaneous Debt, they typically are related to debt premiums and discounts.

2014 Flotation Costs for Bonds

<i>From 424(b)</i>	CSX Notes 7/16/2014	CSX Notes 7/16/2014	UNP Notes 1/7/2014	UNP Notes 1/7/2014	UNP Notes 1/7/2014	UNP Notes 8/7/2014	UNP Notes 8/7/2014
Face Amount	\$550,000,000	\$450,000,000	\$300,000,000	\$400,000,000	\$300,000,000	\$350,000,000	\$350,000,000
Coupon Rate	3.400%	4.500%	2.250%	3.750%	4.850%	3.250%	4.150%
Maturity Date	8/1/2024	8/1/2054	2/15/2019	3/15/2024	6/15/2044	1/15/2025	1/15/2045
Frequency of Coupon Payment	2	2	2	2	2	2	2
Interest Accrual Date	7/21/2014	7/21/2014	1/10/2014	1/10/2014	1/10/2014	8/12/2014	8/12/2014
Price To Investors	99.915	99.337	99.869	99.247	99.373	99.669	98.472
Proceeds from Sale (before expenses)	\$549,532,500	\$447,016,500	\$299,607,000	\$396,988,000	\$298,119,000	\$348,841,500	\$344,652,000
Underwriter Fee as Pct of Gross Proceeds	0.650%	0.875%	0.600%	0.650%	0.875%	0.650%	0.875%
Underwriter's Fee	\$3,575,000	\$3,937,500	\$1,800,000	\$2,600,000	\$2,625,000	\$2,275,000	\$3,062,500
Railroad Expenses Excluding Fee	\$165,000	\$135,000	\$22,500	\$30,000	\$22,500	\$37,500	\$37,500
Page in 424(b)(5) for Expenses	S-22	S-22	S-8	S-8	S-8	S-8	S-8
<i>Calculated</i>							
Yield Based on Price to Investors	3.410%	4.536%	2.277%	3.840%	4.890%	3.288%	4.240%
Issue Price Per \$100 Less Flotation	\$99.24	\$98.43	\$99.26	\$98.59	\$98.49	\$99.01	\$97.59
Yield on New Issue Including Flotation	3.491%	4.586%	2.405%	3.919%	4.946%	3.363%	4.293%
Flotation Costs (Difference in Pct Pts)	0.081%	0.050%	0.127%	0.079%	0.057%	0.076%	0.053%
Average Flotation Cost (Pct. Points)	<u>0.075%</u>						
Previous Year's Average	0.068%						

Source: SEC 424(b)(5) or 424(b)(2) filings.

Example of Source for Bond Flotation Costs

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**Prospectus Supplement
(To Prospectus Dated February 8, 2013)**

\$1,000,000,000



**Union Pacific
Corporation**

\$300,000,000 2.250% Notes due 2019

\$400,000,000 3.750% Notes due 2024

\$300,000,000 4.850% Notes due 2044

We will pay interest on the 2.250% notes due 2019 (the “2019 notes”) on each February 15 and August 15, commencing August 15, 2014. We will pay interest on the 3.750% notes due 2024 (the “2024 notes”) on each March 15 and September 15, commencing September 15, 2014. We will pay interest on the 4.850% notes due 2044 (the “2044 notes”) on each June 15 and December 15, commencing June 15, 2014. The 2019 notes will mature on February 15, 2019, the 2024 notes will mature on March 15, 2024 and the 2044 notes will mature on June 15, 2044. We use the term “notes” to refer to the 2019 notes, 2024 notes and 2044 notes, collectively.

We may redeem some or all of each series of notes at any time and from time to time at the applicable redemption prices described in this prospectus supplement. There is no sinking fund for the notes. See “Description of the Notes” for a description of the terms of the notes.

	<u>Price to Public(1)</u>	<u>Underwriting Discount</u>	<u>Proceeds to the Company</u>
Per 2019 Note	99.869%	0.600%	99.269%
Total	\$ 299,607,000	\$ 1,800,000	\$297,807,000
Per 2024 Note	99.247%	0.650%	98.597%
Total	\$ 396,938,000	\$ 2,600,000	\$394,338,000
Per 2044 Note	99.373%	0.875%	98.498%
Total	\$ 298,119,000	\$ 2,625,000	\$295,494,000

(1) Plus accrued interest, if any, from January 10, 2014.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Delivery of the notes, in book-entry form only through The Depository Trust Company, will be made on or about January 10, 2014.

Example of Source for Bond Flotation Costs

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UNDERWRITING

Under the terms and subject to the conditions contained in an underwriting agreement dated January 7, 2014, we have agreed to sell to the underwriters named below, for whom Barclays Capital Inc., Citigroup Global Markets Inc. and Credit Suisse Securities (USA) LLC are acting as representatives, the following respective principal amounts of the notes:

<u>Underwriter</u>	<u>Principal Amount of the 2019 Notes</u>	<u>Principal Amount of the 2024 Notes</u>	<u>Principal Amount of the 2044 Notes</u>
Barclays Capital Inc.	\$ 75,000,000	\$ 100,000,000	\$ 75,000,000
Citigroup Global Markets Inc.	\$ 75,000,000	\$ 100,000,000	\$ 75,000,000
Credit Suisse Securities (USA) LLC	\$ 75,000,000	\$ 100,000,000	\$ 75,000,000
J.P. Morgan Securities LLC	\$ 9,000,000	\$ 12,000,000	\$ 9,000,000
Merrill Lynch, Pierce, Fenner & Smith Incorporated	\$ 9,000,000	\$ 12,000,000	\$ 9,000,000
Morgan Stanley & Co. LLC	\$ 9,000,000	\$ 12,000,000	\$ 9,000,000
Mitsubishi UFJ Securities (USA), Inc.	\$ 7,500,000	\$ 10,000,000	\$ 7,500,000
SunTrust RobinsonHumphrey, Inc.	\$ 7,500,000	\$ 10,000,000	\$ 7,500,000
U.S. Bancorp Investments, Inc.	\$ 7,500,000	\$ 10,000,000	\$ 7,500,000
Wells Fargo Securities, LLC	\$ 7,500,000	\$ 10,000,000	\$ 7,500,000
BNY Mellon Capital Markets, LLC	\$ 4,500,000	\$ 6,000,000	\$ 4,500,000
Loop Capital Markets LLC	\$ 4,500,000	\$ 6,000,000	\$ 4,500,000
Mizuho Securities USA Inc.	\$ 4,500,000	\$ 6,000,000	\$ 4,500,000
PNC Capital Markets LLC	\$ 4,500,000	\$ 6,000,000	\$ 4,500,000
Total	<u>\$ 300,000,000</u>	<u>\$ 400,000,000</u>	<u>\$ 300,000,000</u>

The underwriting agreement provides that the underwriters are obligated to purchase all of the notes if any are purchased.

The underwriters propose to offer the notes of each series at the applicable public offering prices on the cover page of this prospectus supplement and may offer notes to selling group members at those prices less selling concessions of 0.350%, 0.400% and 0.525% of the principal amount per 2019 note, 2024 note and 2044 note, respectively. The underwriters and selling group members may allow discounts of 0.250%, 0.250% and 0.315% of the principal amount per 2019 note, 2024 note and 2044 note, respectively, on sales to other broker/dealers. After the initial public offering the representatives may change the public offering prices and concessions and discounts to broker/dealers.

The following table shows the underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering (expressed as a percentage of the principal amount of the notes):

	<u>Paid by Union Pacific Corporation</u>
Per 2019 Note	0.600%
Per 2024 Note	0.650%
Per 2044 Note	0.875%

We estimate that our out of pocket expenses for this offering will be approximately \$75,000.

Each of the notes is part of a new issue of securities with no established trading market. We do not intend to apply for the notes to be listed on any securities exchange or to arrange for the notes to be quoted on any quotation system. The underwriters intend to make a secondary market for the notes. However, they are not

2014 Current Cost of Debt

Type of Debt	Cost Reference	Appendix D Weight	Current Cost	Weighted Cost
Type of Instrument				
Bonds, Notes & Debentures	App. A & Table 4	98.62%	3.509%	3.460%
Equipment Trust Certificates	App. C & Table 6	1.38%	3.244%	0.045%
Conditional Sales Agreements	Railroad Data	0.00%	--	--
Total Without Floatation Costs		100.00%		3.505%
Floatation Costs				
Bonds, Notes & Debentures	App. F & Table 9	98.62%	0.075%	0.074%
Equipment Trust Certificates	Tables 8 and 9	1.38%	0.076%	0.001%
Conditional Sales Agreements	Table 9	0.00%	not calculated	--
Total Floatation Costs		100.00%		0.075%
Weighted Cost of Debt				3.580%
Weighted Cost of Debt (rounded)				3.58%

Market Value for Common Equity

CSX Data from Yahoo Finance 1-7-2015

<http://finance.yahoo.com/q/hp?s=CSX&a=11&b=20&c=2009&d=00&e=7&f=2015&g=w>

Beg. of Wk. Date	Open	High	Low	End of Wk Close	Volume	Shares Outstanding	Capitalization (\$000)
1/6/2014	28.56	28.94	28.05	28.88	4619400	1,013,674,361	29,274,916
1/13/2014	28.83	29.25	26.76	27.23	13199000	1,013,674,361	27,602,353
1/21/2014	27.35	27.52	26.19	26.20	8847000	1,007,591,673	26,398,902
1/27/2014	26.09	27.06	25.89	26.91	6515500	1,007,591,673	27,114,292
2/3/2014	26.93	27.45	25.84	27.25	7186400	1,007,591,673	27,456,873
2/10/2014	27.19	27.59	26.90	27.53	4969600	1,007,591,673	27,738,999
2/18/2014	27.52	27.62	27.06	27.32	6500800	1,007,591,673	27,527,405
2/24/2014	27.33	27.97	27.08	27.71	5988300	1,007,591,673	27,920,365
3/3/2014	27.52	29.10	27.35	28.87	5895300	1,007,591,673	29,089,172
3/10/2014	28.88	29.19	28.26	28.38	7263000	1,007,591,673	28,595,452
3/17/2014	28.57	29.11	28.43	28.76	4342400	1,007,591,673	28,978,337
3/24/2014	28.87	29.45	28.24	28.58	5744300	1,004,362,589	28,704,683
3/31/2014	28.73	29.27	28.65	28.76	5506800	1,004,362,589	28,885,468
4/7/2014	28.60	28.90	27.79	28.01	5934700	1,004,362,589	28,132,196
4/14/2014	28.24	28.54	27.14	28.15	11427700	1,004,362,589	28,272,807
4/21/2014	28.28	28.52	27.95	28.03	4915900	1,004,362,589	28,152,283
4/28/2014	28.16	28.36	27.71	27.83	5264200	1,004,362,589	27,951,411
5/5/2014	27.75	28.69	27.58	28.69	5627200	1,004,362,589	28,815,163
5/12/2014	28.75	29.63	28.68	29.27	5725000	1,004,362,589	29,397,693
5/19/2014	29.18	29.72	29.00	29.43	5428300	1,004,362,589	29,558,391
5/27/2014	29.52	29.75	29.29	29.40	6248300	1,004,362,589	29,528,260
6/2/2014	29.46	30.45	28.94	30.39	6795700	1,004,362,589	30,522,579
6/9/2014	30.36	30.51	29.90	30.35	5425900	1,004,362,589	30,482,405
6/16/2014	30.26	31.07	30.07	31.00	5722800	1,004,362,589	31,135,240
6/23/2014	31.00	31.09	30.24	30.77	7799800	999,572,416	30,756,843
6/30/2014	30.76	31.22	30.73	31.20	4585400	999,572,416	31,186,659
7/7/2014	31.03	31.18	30.75	31.00	5687000	999,572,416	30,986,745
7/14/2014	31.09	31.30	30.60	31.09	8228700	999,572,416	31,076,706
7/21/2014	31.06	31.59	30.93	31.00	4749000	999,572,416	30,986,745
7/28/2014	31.03	31.07	29.36	29.59	6663900	999,572,416	29,577,348
8/4/2014	29.62	29.77	29.07	29.54	5821100	999,572,416	29,527,369
8/11/2014	29.69	30.29	29.52	30.22	5193600	999,572,416	30,207,078
8/18/2014	30.41	30.99	30.37	30.71	5110900	999,572,416	30,696,869
8/25/2014	30.85	30.94	30.54	30.91	3682800	999,572,416	30,896,783
9/2/2014	30.98	31.50	30.95	31.49	4919900	999,572,416	31,476,535
9/8/2014	31.45	31.49	30.91	31.29	4951800	999,572,416	31,276,621
9/15/2014	31.37	32.66	31.23	32.46	5380700	999,572,416	32,446,121
9/22/2014	32.42	32.51	31.62	32.32	6103100	995,397,303	32,171,241
9/29/2014	31.99	32.48	30.79	31.93	6849700	995,397,303	31,783,036
10/6/2014	32.15	32.33	29.75	29.94	7907000	995,397,303	29,802,195
10/13/2014	33.51	34.09	31.00	33.86	20190600	995,397,303	33,704,153
10/20/2014	32.37	35.36	32.33	35.30	11680000	995,397,303	35,137,525
10/27/2014	35.26	35.95	34.78	35.63	5960500	995,397,303	35,466,006
11/3/2014	35.74	35.75	34.39	35.45	11117000	995,397,303	35,286,834
11/10/2014	35.62	36.96	35.60	36.79	6033100	995,397,303	36,620,667
11/17/2014	36.58	37.71	36.31	37.56	4311500	995,397,303	37,387,123
11/24/2014	37.65	37.99	36.32	36.49	4451300	995,397,303	36,322,048
12/1/2014	35.95	37.53	34.60	36.95	9680100	995,397,303	36,779,930
12/8/2014	36.66	36.81	34.82	34.84	6538200	995,397,303	34,679,642
12/15/2014	35.09	36.65	34.34	35.76	8776800	995,397,303	35,595,408
12/22/2014	35.97	36.85	35.95	36.68	2924300	995,397,303	36,511,173
12/29/2014	36.55	36.96	35.50	35.85	4131100	995,397,303	35,684,993

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

KSU Data from Yahoo Finance 1-7-2015

<http://finance.yahoo.com/q/hp?a=11&b=20&c=2009&d=00&e=7&f=2015&g=w&s=ksu&q=1>

Beg. of Wk. Date	Open	High	Low	End of Wk Close	Volume	Shares Outstanding	Capitalization (\$000)
1/6/2014	119.93	120.21	114.64	116.38	1028100	110,209,276	12,826,156
1/13/2014	116.32	119.68	115.61	116.31	927100	110,209,276	12,818,441
1/21/2014	117.54	118.82	92.50	99.49	4328300	110,247,066	10,968,481
1/27/2014	100.38	106.10	98.22	105.59	2103200	110,247,066	11,640,988
2/3/2014	105.29	106.18	99.08	102.59	1450500	110,247,066	11,310,247
2/10/2014	102.63	102.78	95.04	95.96	1844800	110,247,066	10,579,308
2/18/2014	93.91	97.36	88.56	95.58	3352700	110,247,066	10,537,415
2/24/2014	95.35	95.85	91.45	93.92	2001100	110,247,066	10,354,404
3/3/2014	93.45	99.11	92.94	98.37	1198100	110,247,066	10,845,004
3/10/2014	98.14	102.24	96.49	96.60	2041600	110,247,066	10,649,867
3/17/2014	97.40	101.12	97.40	98.58	1087300	110,247,066	10,868,156
3/24/2014	99.00	100.68	97.10	99.61	1198000	110,247,066	10,981,710
3/31/2014	100.22	105.73	99.35	100.73	1530600	110,247,066	11,105,187
4/7/2014	100.65	101.81	95.41	95.54	1151300	110,324,940	10,540,445
4/14/2014	96.72	104.51	96.12	101.14	1510600	110,324,940	11,158,264
4/21/2014	101.53	102.79	98.92	99.27	785400	110,324,940	10,951,957
4/28/2014	99.83	101.11	98.04	99.30	957400	110,324,940	10,955,267
5/5/2014	98.87	100.37	98.18	99.55	568300	110,324,940	10,982,848
5/12/2014	100.12	103.66	98.37	103.52	804500	110,324,940	11,420,838
5/19/2014	103.10	107.83	102.75	107.46	945500	110,324,940	11,855,518
5/27/2014	107.90	108.87	106.80	107.52	818200	110,324,940	11,862,138
6/2/2014	107.84	107.84	104.32	107.56	702300	110,324,940	11,866,551
6/9/2014	107.34	108.77	103.50	104.62	527400	110,324,940	11,542,195
6/16/2014	104.55	108.17	103.95	107.84	593100	110,324,940	11,897,442
6/23/2014	107.92	107.92	105.50	106.08	541400	110,324,940	11,703,270
6/30/2014	106.08	109.65	106.07	109.39	529200	110,324,940	12,068,445
7/7/2014	109.18	112.24	107.88	112.05	1014800	110,337,348	12,363,300
7/14/2014	112.60	116.88	112.26	116.37	1089000	110,337,348	12,839,957
7/21/2014	116.00	117.25	113.88	114.25	837800	110,337,348	12,606,042
7/28/2014	114.09	114.27	107.35	107.79	721900	110,337,348	11,893,263
8/4/2014	107.94	109.75	107.13	109.66	633700	110,337,348	12,099,594
8/11/2014	110.20	113.17	109.96	112.54	570400	110,337,348	12,417,365
8/18/2014	113.18	114.99	112.71	113.59	514100	110,337,348	12,533,219
8/25/2014	114.22	115.44	113.01	115.36	399200	110,337,348	12,728,516
9/2/2014	115.42	117.43	115.42	117.21	783900	110,337,348	12,932,641
9/8/2014	117.25	117.44	114.41	114.96	536600	110,337,348	12,684,382
9/15/2014	115.07	122.88	114.27	121.43	988300	110,337,348	13,398,264
9/22/2014	121.24	121.94	118.41	120.07	672200	110,337,348	13,248,205
9/29/2014	119.47	123.95	116.14	122.03	973800	110,337,348	13,464,467
10/6/2014	123.02	123.49	112.53	112.57	967600	110,360,358	12,423,266
10/13/2014	116.66	124.68	111.29	115.79	1827200	110,360,358	12,778,626
10/20/2014	114.43	121.08	114.34	120.26	1001400	110,360,358	13,271,937
10/27/2014	120.10	123.23	118.73	122.79	758800	110,360,358	13,551,148
11/3/2014	122.73	125.10	120.10	123.32	644400	110,360,358	13,609,639
11/10/2014	123.81	126.49	123.33	125.88	811100	110,360,358	13,892,162
11/17/2014	125.21	125.38	122.09	124.17	680900	110,360,358	13,703,446
11/24/2014	124.64	126.01	118.62	118.94	742100	110,360,358	13,126,261
12/1/2014	117.99	120.57	111.35	117.30	1230100	110,360,358	12,945,270
12/8/2014	116.92	116.94	109.57	109.62	885900	110,360,358	12,097,702
12/15/2014	110.66	120.65	109.80	120.29	1239900	110,360,358	13,275,247
12/22/2014	120.58	123.96	120.50	122.41	513100	110,360,358	13,509,211
12/29/2014	121.89	123.88	119.04	120.42	614700	110,360,358	13,289,594

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

NSC Data from Yahoo Finance 1-7-2015

<http://finance.yahoo.com/q/hp?a=11&b=20&c=2009&d=00&e=7&f=2015&g=w&s=nsc&q=1>

Beg. of Wk. Date	Open	High	Low	End of Wk Close	Volume	Shares Outstanding	Capitalization (\$000)
1/6/2014	91.49	92.14	89.19	91.59	1428500	308,910,328	28,293,097
1/13/2014	91.64	92.04	87.14	88.99	2150800	308,910,328	27,489,930
1/21/2014	89.26	95.10	88.25	89.61	3638600	308,910,328	27,681,454
1/27/2014	89.80	93.28	89.33	92.59	2288100	309,715,149	28,676,526
2/3/2014	93.13	94.93	89.46	94.74	3936700	309,715,149	29,342,413
2/10/2014	94.52	94.65	91.96	92.84	2232700	309,715,149	28,753,954
2/18/2014	92.87	92.88	90.13	90.47	2761900	309,715,149	28,019,930
2/24/2014	90.86	92.48	89.76	91.91	1998500	309,715,149	28,465,919
3/3/2014	90.96	95.25	90.90	94.29	2250500	309,715,149	29,203,041
3/10/2014	94.28	96.90	93.46	94.53	2227800	309,715,149	29,277,373
3/17/2014	94.97	97.91	94.92	96.47	2032200	309,715,149	29,878,220
3/24/2014	96.87	98.09	95.18	96.35	1581300	309,715,149	29,841,055
3/31/2014	96.82	98.12	96.08	96.64	1485200	309,646,086	29,924,198
4/7/2014	95.96	97.09	92.69	93.15	1694800	309,646,086	28,843,533
4/14/2014	93.90	96.59	91.91	96.27	2165000	309,646,086	29,809,629
4/21/2014	96.24	97.48	93.25	94.03	1854500	309,646,086	29,116,021
4/28/2014	94.23	94.86	93.19	93.57	1376000	309,646,086	28,973,584
5/5/2014	93.29	96.00	92.69	95.30	1348100	309,646,086	29,509,272
5/12/2014	95.96	97.98	95.57	97.34	1135700	309,646,086	30,140,950
5/19/2014	97.18	100.13	96.90	99.20	1314700	309,646,086	30,716,892
5/27/2014	99.84	101.33	99.58	100.75	1121500	309,646,086	31,196,843
6/2/2014	101.06	101.94	98.54	101.76	1422000	309,646,086	31,509,586
6/9/2014	101.76	103.05	100.00	101.16	1092000	309,646,086	31,323,798
6/16/2014	101.10	104.49	100.73	104.41	1312700	309,646,086	32,330,148
6/23/2014	104.27	104.63	101.02	101.65	1555900	309,646,086	31,475,525
6/30/2014	102.67	104.58	102.27	103.84	1532500	309,515,208	32,140,059
7/7/2014	103.58	104.06	101.83	103.95	1253700	309,515,208	32,174,106
7/14/2014	104.22	106.22	103.97	106.18	1359700	309,515,208	32,864,325
7/21/2014	105.72	108.84	105.52	107.50	1485800	309,515,208	33,272,885
7/28/2014	107.03	107.40	100.15	101.20	1623300	309,515,208	31,322,939
8/4/2014	101.21	101.92	99.63	101.37	1806500	309,515,208	31,375,557
8/11/2014	101.51	104.68	101.40	104.49	1103300	309,515,208	32,341,244
8/18/2014	105.45	106.92	104.22	105.48	1744800	309,515,208	32,647,664
8/25/2014	105.95	107.00	105.38	107.00	852100	309,515,208	33,118,127
9/2/2014	107.00	109.61	106.60	109.55	1531200	309,515,208	33,907,391
9/8/2014	109.41	109.70	107.54	107.89	1169200	309,515,208	33,393,596
9/15/2014	108.07	112.95	107.32	112.00	1651700	309,515,208	34,665,703
9/22/2014	112.09	112.61	109.39	111.31	1218100	309,515,208	34,452,138
9/29/2014	110.35	113.41	108.17	112.47	1962000	309,441,867	34,802,927
10/6/2014	112.93	113.50	101.80	102.36	2284100	309,441,867	31,674,470
10/13/2014	106.33	111.25	101.80	106.54	2932600	309,441,867	32,967,937
10/20/2014	105.66	109.86	105.18	109.39	2567200	309,441,867	33,849,846
10/27/2014	109.07	111.97	108.45	110.64	1936900	309,441,867	34,236,648
11/3/2014	110.50	114.40	108.13	112.86	2203700	309,441,867	34,923,609
11/10/2014	114.75	117.26	114.66	116.03	1850500	309,441,867	35,904,540
11/17/2014	115.28	116.41	114.43	115.36	1203900	309,441,867	35,697,214
11/24/2014	115.70	117.64	111.36	111.64	1308900	309,441,867	34,546,090
12/1/2014	111.08	111.93	104.48	107.07	3605200	309,441,867	33,131,941
12/8/2014	106.49	106.49	101.02	101.55	2616200	309,441,867	31,423,822
12/15/2014	102.16	109.60	101.06	109.05	2977600	309,441,867	33,744,636
12/22/2014	109.42	112.06	108.20	111.54	1188200	309,441,867	34,515,146
12/29/2014	110.83	112.22	107.91	109.15	1104400	309,441,867	33,775,580

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

UNP Data from Yahoo Finance 1-14-2014

<http://finance.yahoo.com/q/hp?a=11&b=20&c=2008&d=00&e=14&f=2014&g=w&s=UNP%2C&q=1>

Beg. of Wk. Date	Open	High	Low	End of Wk. Close	Volume	Shares Outstanding	Capitalization (\$000)
1/6/2014	167.17	170.88	164.97	170.38	4192100	460,568,638	78,471,685
1/13/2014	170.34	171.38	166.56	167.84	4324100	460,568,638	77,301,840
1/21/2014	169.58	175.00	167.18	171.64	5693100	460,568,638	79,052,001
1/27/2014	172.06	177.00	170.30	174.24	5112600	455,057,609	79,289,238
2/3/2014	174.60	177.58	171.12	176.90	4766800	455,057,609	80,499,691
2/10/2014	176.65	180.49	174.56	180.14	4105700	455,057,609	81,974,078
2/18/2014	180.24	180.40	175.57	179.12	4476900	455,057,609	81,509,919
2/24/2014	179.22	181.28	176.76	180.38	3435500	455,057,609	82,083,292
3/3/2014	179.17	188.59	178.29	187.57	4141800	455,057,609	85,355,156
3/10/2014	187.27	189.46	184.20	185.14	3693900	455,057,609	84,249,366
3/17/2014	186.48	190.48	185.86	187.33	4034000	455,057,609	85,245,942
3/24/2014	187.65	189.31	182.85	184.75	4104800	455,057,609	84,071,893
3/31/2014	185.79	190.00	185.09	188.05	3144600	455,057,609	85,573,583
4/7/2014	187.80	188.38	180.85	181.07	4024700	452,911,741	82,008,729
4/14/2014	182.62	190.03	180.72	189.59	6152600	452,911,741	85,867,537
4/21/2014	190.00	194.16	187.41	187.78	3791100	452,911,741	85,047,767
4/28/2014	188.76	191.25	186.72	188.00	3422700	452,911,741	85,147,407
5/5/2014	187.74	189.95	186.81	189.32	4081400	452,911,741	85,745,251
5/12/2014	189.54	195.25	189.54	195.16	3785500	452,911,741	88,390,255
5/19/2014	195.26	197.13	193.20	196.26	2884200	452,911,741	88,888,458
5/27/2014	197.09	199.46	196.27	199.27	3227500	452,911,741	90,251,723
6/2/2014	199.36	202.62	196.91	201.86	3084000	452,911,741	91,424,764
6/9/2014	101.87	102.96	100.33	100.90	2866400	905,823,482	91,397,589
6/16/2014	100.25	101.44	99.28	101.08	3535100	905,823,482	91,560,638
6/23/2014	101.18	101.20	99.16	99.64	2823000	905,823,482	90,256,252
6/30/2014	99.54	101.09	99.54	100.98	3267800	905,823,482	91,470,055
7/7/2014	101.20	101.20	99.27	100.27	2248400	905,823,482	90,826,921
7/14/2014	100.74	102.00	100.37	101.34	2498700	897,427,875	90,945,341
7/21/2014	101.32	103.25	100.60	101.66	2956600	897,427,875	91,232,518
7/28/2014	101.46	101.63	97.74	97.91	4109300	897,427,875	87,867,163
8/4/2014	98.12	98.75	96.76	98.64	3151400	897,427,875	88,522,286
8/11/2014	99.10	102.28	99.00	101.99	2682600	897,427,875	91,528,669
8/18/2014	102.74	106.34	102.35	105.77	2861200	897,427,875	94,920,946
8/25/2014	106.20	106.23	104.54	105.27	2233500	897,427,875	94,472,232
9/2/2014	105.70	108.74	105.49	107.69	3577400	897,427,875	96,644,008
9/8/2014	107.65	107.94	106.75	107.01	1876500	897,427,875	96,033,757
9/15/2014	107.09	110.26	106.38	109.36	3441200	897,427,875	98,142,712
9/22/2014	109.52	109.69	106.97	108.58	2579700	897,427,875	97,442,719
9/29/2014	107.95	109.77	104.88	109.51	3703900	897,427,875	98,277,327
10/6/2014	110.41	110.84	101.20	101.34	4320800	897,427,875	90,945,341
10/13/2014	102.99	106.98	96.17	106.40	7543100	889,099,281	94,600,163
10/20/2014	105.60	114.62	105.27	114.58	4839500	889,099,281	101,872,996
10/27/2014	114.39	117.10	113.37	116.45	3926600	889,099,281	103,535,611
11/3/2014	116.57	119.66	114.80	118.75	4044400	889,099,281	105,580,540
11/10/2014	119.30	121.82	119.15	120.71	3158900	889,099,281	107,323,174
11/17/2014	120.23	122.79	119.65	121.85	3143200	889,099,281	108,336,747
11/24/2014	122.49	123.61	116.55	116.77	3697100	889,099,281	103,820,123
12/1/2014	116.44	121.39	113.19	118.61	5006100	889,099,281	105,456,066
12/8/2014	117.87	118.08	111.89	112.55	4908400	889,099,281	100,068,124
12/15/2014	113.15	119.98	111.28	118.47	5432000	889,099,281	105,331,592
12/22/2014	119.06	121.40	118.94	120.39	2014000	889,099,281	107,038,662
12/29/2014	119.54	120.95	117.66	118.61	2425400	889,099,281	105,456,066

Note: Capitalization calculated using close of week price multiplied by the number of shares outstanding.

Market Value for Common Equity

Total Market Value for CSX, KSU, NSC, and UNP combined

Based on close price on last trading day of week and shares outstanding from 10-K and 10-Q.

Days For Week		Capitalization (\$000)
Beginning	End	
1. Monday, January 06, 2014	Friday, January 10, 2014	\$148,865,853
2. Monday, January 13, 2014	Friday, January 17, 2014	\$145,212,564
3. Tuesday, January 21, 2014	Friday, January 24, 2014	\$144,100,838
4. Monday, January 27, 2014	Friday, January 31, 2014	\$146,721,043
5. Monday, February 03, 2014	Friday, February 07, 2014	\$148,609,224
6. Monday, February 10, 2014	Friday, February 14, 2014	\$149,046,339
7. Tuesday, February 18, 2014	Friday, February 21, 2014	\$147,594,668
8. Monday, February 24, 2014	Friday, February 28, 2014	\$148,823,981
9. Monday, March 03, 2014	Friday, March 07, 2014	\$154,492,373
10. Monday, March 10, 2014	Friday, March 14, 2014	\$152,772,057
11. Monday, March 17, 2014	Friday, March 21, 2014	\$154,970,655
12. Monday, March 24, 2014	Friday, March 28, 2014	\$153,599,341
13. Monday, March 31, 2014	Friday, April 04, 2014	\$155,488,436
14. Monday, April 07, 2014	Friday, April 11, 2014	\$149,524,903
15. Monday, April 14, 2014	Thursday, April 17, 2014	\$155,108,237
16. Monday, April 21, 2014	Friday, April 25, 2014	\$153,268,028
17. Monday, April 28, 2014	Friday, May 02, 2014	\$153,027,669
18. Monday, May 05, 2014	Friday, May 09, 2014	\$155,052,533
19. Monday, May 12, 2014	Friday, May 16, 2014	\$159,349,736
20. Monday, May 19, 2014	Friday, May 23, 2014	\$161,019,259
21. Tuesday, May 27, 2014	Friday, May 30, 2014	\$162,838,963
22. Monday, June 02, 2014	Friday, June 06, 2014	\$165,323,479
23. Monday, June 09, 2014	Friday, June 13, 2014	\$164,745,987
24. Monday, June 16, 2014	Friday, June 20, 2014	\$166,923,467
25. Monday, June 23, 2014	Friday, June 27, 2014	\$164,191,889
26. Monday, June 30, 2014	Thursday, July 03, 2014	\$166,865,219
27. Monday, July 07, 2014	Friday, July 11, 2014	\$166,351,071
28. Monday, July 14, 2014	Friday, July 18, 2014	\$167,726,329
29. Monday, July 21, 2014	Friday, July 25, 2014	\$168,098,190
30. Monday, July 28, 2014	Friday, August 01, 2014	\$160,660,713
31. Monday, August 04, 2014	Friday, August 08, 2014	\$161,524,805
32. Monday, August 11, 2014	Friday, August 15, 2014	\$166,494,357
33. Monday, August 18, 2014	Friday, August 22, 2014	\$170,798,699
34. Monday, August 25, 2014	Friday, August 29, 2014	\$171,215,660
35. Tuesday, September 02, 2014	Friday, September 05, 2014	\$174,960,575
36. Monday, September 08, 2014	Friday, September 12, 2014	\$173,388,355
37. Monday, September 15, 2014	Friday, September 19, 2014	\$178,652,800
38. Monday, September 22, 2014	Friday, September 26, 2014	\$177,314,303
39. Monday, September 29, 2014	Friday, October 03, 2014	\$178,327,756
40. Monday, October 06, 2014	Friday, October 10, 2014	\$164,845,271
41. Monday, October 13, 2014	Friday, October 17, 2014	\$174,050,879
42. Monday, October 20, 2014	Friday, October 24, 2014	\$184,132,303
43. Monday, October 27, 2014	Friday, October 31, 2014	\$186,789,414
44. Monday, November 03, 2014	Friday, November 07, 2014	\$189,400,622
45. Monday, November 10, 2014	Friday, November 14, 2014	\$193,740,543
46. Monday, November 17, 2014	Friday, November 21, 2014	\$195,124,530
47. Monday, November 24, 2014	Friday, November 28, 2014	\$187,814,522
48. Monday, December 01, 2014	Friday, December 05, 2014	\$188,313,207
49. Monday, December 08, 2014	Friday, December 12, 2014	\$178,269,290
50. Monday, December 15, 2014	Friday, December 19, 2014	\$187,946,882
51. Monday, December 22, 2014	Friday, December 26, 2014	\$191,574,193
52. Monday, December 29, 2014	Friday, January 02, 2015	\$188,206,233
Average		\$166,408,812.32

Historical Risk Free Rates and Market Risk Premiums

The Surface Transportation Board (STB) has used a Capital Asset Pricing Model (CAPM) as part of its cost of capital determination since 2006. Two major components of the STB's CAPM are the Risk-Free Rate, which is based on 20-Year U.S. Government Bonds, and the Market Risk Premium (a.k.a. Equity Risk Premium), as calculated by Ibbotson Associates using data beginning in 1926. The table below lists the rates used by the STB (since 2006), and earlier rates that would have been used as part of the current STB specifications.

Year	Risk-Free Rate	Market Risk Premium
1980	11.36 %	7.60 %
1981	13.72	7.20
1982	12.92	7.20
1983	11.34	7.30
1984	12.49	7.10
1985	10.97	7.30
1986	7.84	7.40
1987	n.a.	7.20
1988	n.a.	7.20
1989	n.a.	7.50
1990	n.a.	7.20
1991	n.a.	7.40
1992	n.a.	7.30
1993	6.29	7.20
1994	7.49	7.00
1995	6.95	7.40
1996	6.83	7.50
1997	6.69	7.80
1998	5.72	8.00
1999	6.20	8.10
2000	6.23	7.80
2001	5.63	7.40
2002	5.43	7.00
2003	4.96	7.20
2004	5.04	7.20
2005	4.64	7.10
2006	5.00	7.13
2007	4.91	7.05
2008	4.36	6.47
2009	4.11	6.67
2010	4.03	6.72
2011	3.62	6.62
2012	2.54	6.70
2013	3.12	6.96
2014	3.07	7.00

Sources: Federal Reserve Board for U.S. government 20-year bonds (Risk-Free Rate) and Morningstar's *Ibbotson S&P 500 Valuation Yearbook* Table A-1 for Market Risk Premiums through 2012. Morningstar's *Ibbotson S&P 500 Classic Yearbook* is the source for premiums beginning 2013. Values for 2006 through 2013 match decisions by the STB. The U.S. Government did not issue 20-Year bonds in 1987 through 1992.

AAR Regression for 2014 Beta

AAR Regression for 2014 Beta 15:26 Monday, January 12, 2015 64
 STB-Style 5-Year Beta using SP 500 Price Index, Weighted RR Returns, 90-Day T-Bill as RF
 CSX, KSU, NSC, and UNP

The GLM Procedure

Dependent Variable: ZRR

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.17553570	0.17553570	554.69	<.0001
Error	259	0.08196213	0.00031646		
Corrected Total	260	0.25749783			

R-Square Coeff Var Root MSE ZRR Mean
 0.681698 357.3212 0.017789 0.004978

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ZSP5	1	0.17553570	0.17553570	554.69	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ZSP5	1	0.17553570	0.17553570	554.69	<.0001

AAR Regression for 2014 Beta

AAR Regression for 2014 Beta 15:26 Monday, January 12, 2015 65
 STB-Style 5-Year Beta using SP 500 Price Index, Weighted RR Returns, 90-Day T-Bill as RF
 CSX, KSU, NSC, and UNP

The GLM Procedure

Dependent Variable: ZRR

Parameter	Estimate	Standard Error	t Value	Pr > |t|
Intercept	0.001787380	0.00110943	1.61	0.1084
ZSP5	1.250269053	0.05308569	23.55	<.0001

Cost of Common Equity using the Multi-Stage Discounted Cash Flow Model

The cost of equity for each firm (r_i) in the Surface Transportation Board's interpretation of the Morningstar/Ibbotson three-stage DCF model is the solution to the following equation:¹

$$MV_{i0} = \sum_{t=1}^5 \frac{CF_{i0}(1+g_{i1})^t}{(1+r_i)^t} + \sum_{t=6}^{10} \frac{CF_{i5}(1+g_{i2})}{(1+r_i)^t} + \frac{IBEI_{i10}(1+g_{i3})}{(1+r_i)^{10}},$$

where

MV_{i0} = market value of equity for firm i in year 0 (i.e., the year for which the cost of equity is being estimated);

CF_{it} = average cash flow for firm i at the end of year t ;

g_{ij} = earnings growth rate for firm i in stage j ($j = 1, 2, \text{ or } 3$);

r_i = the cost of equity for firm i ; and

$IBEI_{i10} = IBEI_0(1+g_1)^5(1+g_2)^5$.

Note that $IBEI_0$ is determined by the same process as CF_0 (See Table 14 in text).

¹ *Cost of Capital Yearbook*, 2008, Morningstar, Inc., p. 24.

Cash Flow Calculation

CSX, Corp.	1	2	3	4	5	Total
	2010	2011	2012	2013	2014	
(\$ in millions)						
Revenue	10,636	11,795	11,763	12,026	12,669	58,889
Net Income	1,563	1,854	1,863	1,864	1,927	9,071
Extraordinary Items	0	0	0	0	0	0
Depreciation	947	976	1,059	1,104	1,151	5,237
Deferred Taxes	474	609	592	300	298	2,273
Capital Expenditures	1,840	2,297	2,341	2,313	2,449	11,240
Cash Flow	1,144	1,142	1,173	955	927	5,341
Cash Flow / Revenue	0.10756	0.09682	0.09972	0.07941	0.07317	0.09070
NIBEI / Revenue	0.14695	0.15719	0.15838	0.15500	0.15210	0.15404
Ibbotson Smoothed Cash Flow = \$12,669 x 0.09070 =				\$1,149.03		
Ibbotson Smoothed Net Income BEI = \$12,669 x 0.15404 =				\$1,951.48		

Cash Flow Calculation

Kansas City Southern	1	2	3	4	5	Total
	2010	2011	2012	2013	2014	
(\$ in millions)						
Revenue	1,814.8	2,098.3	2,238.6	2,369.3	2,577.1	11,098
Net Income	169.2	328.7	377.1	351.2	502.4	1,729
Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0
Depreciation	184.9	186.2	198.8	223.3	258.1	1,051
Deferred Taxes	106.2	120.7	197.3	111.2	140.1	676
Capital Expenditures	337.5	518.3	567.4	838.2	997.0	3,258
Cash Flow	123	117	206	-153	-96	197
Cash Flow / Revenue	0.06767	0.05590	0.09193	-0.06437	-0.03741	0.01775
NIBEI / Revenue	0.09323	0.15665	0.16845	0.14823	0.19495	0.15576
Ibbotson Smoothed Cash Flow = \$2,577 x 0.01775 =					\$45.75	
Ibbotson Smoothed Net Income BEI = \$2,577 x 0.15576 =					\$401.40	

Note: Net Income is net available to common stockholders after preferred dividends and non-KCS portion of Meridian Speedway.

Capital Expenditures

Core CapX	287.3	482.2	517.1	594.8	668.2
Special programs	25.0	12.8	22.9	211.8	302.1
Meridian Speedway	25.2	33.3	35.2	31.6	26.7
Meridian, Otr RR	0.0	-10.0	-7.8	0.0	0.0
Total CapX	337.5	518.3	567.4	838.2	997.0

Cash Flow Calculation

Norfolk Southern	1	2	3	4	5	Total
	2010	2011	2012	2013	2014	
(\$ in millions)						
Revenue	9,516	11,172	11,040	11,245	11,624	54,597
Net Income	1,496	1,916	1,749	1,910	2,000	9,071
Extraordinary Items	0	0	0	0	0	0
Depreciation	826	869	922	922	956	4,495
Deferred Taxes	312	527	366	262	294	1,761
Capital Expenditures	1,470	2,160	2,241	1,971	2,118	9,960
Cash Flow	1,164	1,152	796	1,123	1,132	5,367
Cash Flow / Revenue	0.12232	0.10311	0.07210	0.09987	0.09738	0.09830
NIBEI / Revenue	0.15721	0.17150	0.15842	0.16985	0.17206	0.16614
Ibbotson Smoothed Cash Flow = \$11,624 x 0.09830 =						\$1,142.66
Ibbotson Smoothed Net Income BEI = \$11,624 x 0.16614 =						\$1,931.27

Cash Flow Calculation

Union Pacific Corp.	1	2	3	4	5	Total
	2010	2011	2012	2013	2014	
(\$ in millions)						
Revenue	16,965	19,557	20,926	21,963	23,988	103,399
Net Income	2,780	3,292	3,943	4,388	5,180	19,583
Extraordinary Items	0	0	0	0	0	0
Depreciation	1,487	1,617	1,760	1,777	1,904	8,545
Deferred Taxes	672	986	887	723	895	4,163
Capital Expenditures	2,482	3,176	3,738	3,496	4,346	17,238
Cash Flow	2,457	2,719	2,852	3,392	3,633	15,053
Cash Flow / Revenue	0.14483	0.13903	0.13629	0.15444	0.15145	0.14558
NIBEI / Revenue	0.16387	0.16833	0.18843	0.19979	0.21594	0.18939
Ibbotson Smoothed Cash Flow = \$23,988 x 0.14558 =					\$3,492.21	
Ibbotson Smoothed Net Income BEI = \$23,988 x 0.18939 =					\$4,543.15	

2014 Median Growth Rates for MSDCF

Company	Analyst Growth Rates from IBES December 31								Median
	Rate 1	Rate 2	Rate 3	Rate 4	Rate 5	Rate 6	Rate 7	Rate 8	
CSX	10.2	10.0	10.1	8.3	10.8	--	--	--	10.10
KSU	16.8	10.0	15.9	15.0	--	--	--	--	15.45
NSC	12.1	10.0	11.9	7.4	15.0	--	--	--	11.90
UNP	15.7	16.9	2.5	12.2	14.3	11.0	--	--	13.25

Simple Average of Medians = 12.68 percent.

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Security > Estimates > Detail - (Single Period) [Back](#) | [Forward](#) | [Refresh](#)

NORFOLK SOUTHERN CORP - NSC (Share Basis: Diluted/Currency: USD) / UNITED STATES OF AMERICA [Add To Portfolio](#)

Detail Estimates - Period Summary

Measure: Period: Create filtered mean from the last 200 [View Analyst Coverage](#)

NORFOLK SOUTHERN CORPORATION (Per Share Data in USD)

Earnings per Share (EPS)

Important Notices				Guidance						
NA				Issuance Date: NA						
NA				Guidance: NA						
NA				Est. At Issue: NA						
Estimate Summary				Surprise Summary						
	Ests	Mean	High	Low						
Real Time:	3	11.00	11.00	7.40	12/2013Q	03/2014Q	06/2014Q	09/2014Q	12/2014A	
Filtered Preliminary Mean**:	3	11.00	11.00	7.40	Revised	1.64	1.17	1.79	1.79	5.30
30 Day Ago Mean:	3	11.00	11.00	7.40	Surprise Mean	1.50	1.15	1.74	1.83	5.71
* Only selected brokers below are included in the filtered mean					Surprise (%)	9.20	1.90	3.08	-1.00	2.48

Estimate Detail

Filter	Broker	Analyst	Current	Date	Price	Date	Revised
<input checked="" type="checkbox"/>	WELLS	DOLANQ D	12.10 ↓	Oct 23, 14	12.25	Jul 23, 14	Dec 16, 14
<input type="checkbox"/>	BACQUASIE RESEARCH	ZIGBEN C	10.00	Apr 11, 14	NA	NA	Dec 25, 14
<input type="checkbox"/>	MORGANSTAN INC	SCHONMAYER K	11.90 ↓	Oct 24, 14	12.00	Aug 04, 14	Oct 24, 14
<input checked="" type="checkbox"/>	SANDER C. BERNSTEIN & CO., LLC	WERNOLD	7.40 ↑	Oct 30, 14	7.10	Oct 08, 14	Oct 30, 14
<input checked="" type="checkbox"/>	UNDISCLOSED	UNDISCLOSED	15.00	Sep 13, 02	NA	NA	Dec 25, 14

2014 Median Growth Rates for MSDCF NSC

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UNION PACIFIC CORP - UNP (Share Basis: Diluted/Currency: USD) / UNITED STATES OF AMERICA [Add To Portfolio](#)

Detail Disclosure - Period Summary

Report: Period:

Earnings per Share (EPS) Long Term Growth Create filtered mean from the last days

UNION PACIFIC CORPORATION (Per Share Data in USD) [View Analyst Coverage](#)

Earnings per Share (EPS)

Important Notices	Guidance
NA	Current: NA, Issuance Date: NA, Guidance: NA, Est. At Ann: NA
Estimate Summary	Preinit: NA, Guidance: NA, Est. At Ann: NA
Real Time: 4, Mean: 14.47, HI: 15.88, Low: 11.00	Surprise Summary
Filtered/Preliminary Mean**:	Reported: 12/2013Q, 03/2014Q, 06/2014Q, 09/2014Q, 12/2014A
30 Day Ago Mean:	1.28, 1.19, 1.43, 1.53, 4.71
* Only selected tickers below are included in the filtered mean	Surprise Mean: 1.24, 1.19, 1.43, 1.52, 4.66
	Surprise (%): 2.42, 0.36, 0.01, 0.92, 0.55

Estimate Detail

**Filter	Ticker	Adj. Price	Current	Date	Price	Date	Market
<input checked="" type="checkbox"/>	UNP	COMMON S	15.70 ↓	Oct 01, 14	16.00	Jul 24, 14	Nov 04, 14
<input checked="" type="checkbox"/>	UNP	COMMON S	16.88	Oct 24, 14	NA	NA	Dec 15, 14
<input type="checkbox"/>	UNP	COMMON S	2.50	Apr 14, 14	NA	NA	Dec 25, 14
<input type="checkbox"/>	UNP	COMMON S	12.50 ↑	Oct 24, 14	10.70	Aug 01, 14	Oct 24, 14
<input checked="" type="checkbox"/>	UNP	COMMON S	14.30 ↑	Nov 04, 14	14.20	Oct 30, 14	Nov 04, 14
<input checked="" type="checkbox"/>	UNP	UNP	11.90 ↑	Jan 21, 11	10.00	Sep 10, 03	Dec 16, 14

2014 Median Growth Rates for MSDCF UNP

Stage 3 Growth Rate for MS-DCF Summary

The Surface Transportation Board's Multi-Stage Discounted Cash Flow model for estimating the cost of common equity uses 3 stages of growth. The third stage is the long-run nominal growth rate of the U.S. economy, and it is estimated by adding the long-term expected growth in output (represented by the historical growth rate for U.S. Real Gross Domestic Product since 1929) to the long-run expected U.S. inflation rate.

Long Term Expected Growth in Output		3.26 %
Historical Growth Rate for Real GDP, 1929-2014	(page 2)	
Long Term Expected Inflation Rate		<u>1.72</u>
Rate for Long-Term U.S. Government Bonds	2.40 (page 5)	
Rate for 20-year U.S. Inflation-Indexed Bonds	<u>0.68</u> (page 5)	
	1.72	
Stage 3 Growth Rate (real growth + inflation)		4.98 %

The purpose of this appendix is to replicate Morningstar's Stage 3 Growth Rate used by the Surface Transportation Board in its version of the Multi-Stage Discounted Cash Flow model used to estimate the cost of common equity for the railroad industry.

Morningstar's Ibbotson S&P Valuation Yearbook has annually been used as a source for the Stage 3 growth rate of the Surface Transportation Board's Multi-Stage Discounted Cash Flow (MSDCF) model. On September 19, 2013, Morningstar customers were notified that the *S&P Valuation Yearbook* was being discontinued, but much of the same data could be found in a different publication -- the *Ibbotson S&P Classic Yearbook*.

Customer Service said **"We won't be publishing the long-term growth rate anymore, however it's pretty simple to calculate using data that will be in the Classic Yearbook and publicly available data."** They also said "Essentially, you would take the long-term government yield as of December (which would be included in the Classic Yearbook) and subtract the Treasury Real Yield for 20 year bonds (<http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=realyield>) as of the same date. This value is called the inflation estimate." "From there, you need the GDP growth rate, which you can calculate from the Current-dollar and "real" GDP link in this website: <http://www.bea.gov/national/index.htm#gdp>. Using the GDP in billions of chained 2005 dollars column, calculate an annual growth rate. One thing, however, is that we've always used GDP chained to 2005 dollars and it looks like they've since changed it to be chained to 2009 dollars. This may cause a slight change in the historical growth rates."

Stage 3 Growth Rate for MS-DCF Long-Term Expected Growth in Output

AAR Replicates Morningstar

Year	(a) GDP in billions of chained 2005 dollars	(b) Years of Growth	(c) AAR Calc. Growth Rate	(d) SBBI Text Growth Rate
1929	976.1			
2009	12,757.9	80	3.27%	3.3%
2010	13,063.0	81	3.25%	3.3%
2011	13,299.1	82	3.24%	3.24%
2012	13,591.1	83	3.22%	3.22%

The Bureau of Economic Analysis rebased Real GDP from 2005 dollars to 2009 dollars, and may have revised recent year data. Therefore, GDP data in 2005 \$ was not available for 2013.

- (a) Real GDP in 2005 \$ - 2009-2012 are from the Economic Report of the President 2013, Table B-11
1929 is from BEA table dated August 2011
- (b) Year minus 1929 = number of years of growth from 1929 to year
- (c) Compound growth rate from 1929 to year
- (d) Ibbotson SBBI Valuation Yearbook, chapter 4. For 2012 data, 2013 edition, page 52.

AAR Calculates Growth Rate using GDP in 2009 dollars

Year	(e) GDP in billions of chained 2009 dollars	(f) Years of Growth	(g) AAR Calc. Growth Rate
1929	1,056.6		
2009	14,418.7	80	3.32%
2010	14,783.8	81	3.31%
2011	15,020.6	82	3.29%
2012	15,369.2	83	3.28%
2013	15,710.3	84	3.27%
2014	16,085.6	85	3.26%

- (e) Real GDP in 2009 \$ downloaded from BEA 4/14/2015, includes all revisions
- (f) Year - 1929 = number of years of growth from 1929 to year
- (g) Compound growth rate from 1929 to year

Stage 3 Growth Rate for MS-DCF Data Sources for Real GDP in 2005 \$

186

GDP and Other Major NIPA Series

August 2011

Table 2A. Real Gross Domestic Product—Continues
[Billions of chained (2005) dollars; quarterly estimates are seasonally adjusted at annual rates]

Year and quarter	Gross domestic product	Personal consumption expenditures	Gross private domestic investment	Exports and imports of goods and services		Government consumption expenditures and gross investment	Residual	Final sales of domestic product	Gross domestic purchases	Final sales to domestic purchasers	Gross national product	Percent change from preceding period				
				Exports	Imports							Gross domestic product	Final sales of domestic product	Gross domestic purchases	Final sales to domestic purchasers	Gross national product
1929.....	976.1	736.3	101.4	37.9	49.1	146.5	3.1	986.8	994.1	1,005.2	984.6					
1930.....	892.0	696.8	67.6	31.3	42.7	161.4	-22.4	919.2	911.1	939.2	900.0	-8.6	-6.8	-8.4	-6.6	-8.6
1931.....	834.2	674.9	42.5	26.1	37.2	168.2	-40.3	865.2	853.9	885.9	840.7	-6.5	-5.9	-6.3	-5.7	-6.6
1932.....	725.2	614.4	12.8	20.4	30.9	162.6	-54.1	766.6	743.9	786.5	730.5	-13.1	-11.4	-12.9	-11.2	-13.1
1933.....	715.8	600.8	18.9	20.5	32.2	157.2	-49.4	743.2	735.1	763.4	720.3	-1.3	-3.1	-1.2	-2.9	-1.4
1934.....	793.7	643.7	34.1	22.8	32.9	177.3	-51.3	814.0	812.7	833.7	797.7	10.9	9.5	10.6	9.2	10.7
1935.....	864.2	683.0	63.1	24.1	43.1	182.2	-45.1	864.5	892.2	892.7	868.9	8.9	6.2	9.8	7.1	8.9
1936.....	977.0	752.5	80.9	25.3	42.6	218.6	-51.7	978.9	1,006.1	1,008.1	981.1	13.1	13.2	12.8	12.9	12.9
1937.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.1	4.2	4.7	3.7	5.2
1938.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	-3.4	-1.4	-4.3	-2.3	-3.4
1939.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.1	7.4	8.1	7.4	8.1

TABLE B-2. Real gross domestic product, 1964-2012

[Billions of chained (2005) dollars, except as noted; quarterly data at seasonally adjusted annual rates]

Year or quarter	Gross domestic product	Personal consumption expenditures			Gross private domestic investment							
		Total	Goods	Services	Total	Fixed investment						
						Nonresidential						
						Total	Structures	Equipment and software				
1964.....	3,389.4	2,107.5	.....	.....	382.1	.....	.....	.....	.....	.....	.....	.....
1965.....	3,607.0	2,240.8	.....	.....	435.7	.....	.....	.....	.....	.....	.....	.....
1966.....	3,842.1	2,367.9	.....	.....	474.1	.....	.....	.....	.....	.....	.....	.....
1967.....	3,939.2	2,438.8	.....	.....	452.4	.....	.....	.....	.....	.....	.....	.....
1968.....	4,129.9	2,579.6	.....	.....	478.7	.....	.....	.....	.....	.....	.....	.....
1969.....	4,258.2	2,676.2	.....	.....	506.6	.....	.....	.....	.....	.....	.....	.....
1970.....	4,266.3	2,738.9	.....	.....	473.4	.....	.....	.....	.....	.....	.....	.....
1971.....	4,408.5	2,843.3	.....	.....	527.3	.....	.....	.....	.....	.....	.....	.....
1972.....	4,643.8	3,018.1	.....	.....	589.8	.....	.....	.....	.....	.....	.....	.....
1973.....	4,912.8	3,167.7	.....	.....	658.9	.....	.....	.....	.....	.....	.....	.....
1974.....	4,865.7	3,141.4	.....	.....	610.3	.....	.....	.....	.....	.....	.....	.....
1975.....	4,875.4	3,212.6	.....	.....	502.2	.....	.....	.....	.....	.....	.....	.....
1976.....	5,136.9	3,391.5	.....	.....	603.7	.....	.....	.....	.....	.....	.....	.....
1977.....	5,373.1	3,534.3	.....	.....	694.9	.....	.....	.....	.....	.....	.....	.....
1978.....	5,672.8	3,690.1	.....	.....	778.7	.....	.....	.....	.....	.....	.....	.....
1979.....	5,850.1	3,777.8	.....	.....	803.5	.....	.....	.....	.....	.....	.....	.....
1980.....	5,834.0	3,764.5	.....	.....	715.2	.....	.....	.....	.....	.....	.....	.....
1981.....	5,982.1	3,821.6	.....	.....	779.6	.....	.....	.....	.....	.....	.....	.....
1982.....	5,865.9	3,874.9	.....	.....	670.3	.....	.....	.....	.....	.....	.....	.....
1983.....	6,130.9	4,096.4	.....	.....	732.8	.....	.....	.....	.....	.....	.....	.....
1984.....	6,571.5	4,313.6	.....	.....	948.7	.....	.....	.....	.....	.....	.....	.....
1985.....	6,843.4	4,538.3	.....	.....	939.8	.....	.....	.....	.....	.....	.....	.....
1986.....	7,080.5	4,722.4	.....	.....	933.5	.....	.....	.....	.....	.....	.....	.....
1987.....	7,307.0	4,868.0	.....	.....	962.2	.....	.....	.....	.....	.....	.....	.....
1988.....	7,607.4	5,064.3	.....	.....	984.9	.....	.....	.....	.....	.....	.....	.....
1989.....	7,879.2	5,207.5	.....	.....	1,024.4	.....	.....	.....	.....	.....	.....	.....
1990.....	8,027.1	5,313.7	.....	.....	989.9	.....	.....	.....	.....	.....	.....	.....
1991.....	8,008.3	5,321.7	.....	.....	909.4	.....	.....	.....	.....	.....	.....	.....
1992.....	8,280.0	5,503.2	.....	.....	983.1	.....	.....	.....	.....	.....	.....	.....
1993.....	8,516.2	5,698.6	.....	.....	1,070.9	.....	.....	.....	.....	.....	.....	.....
1994.....	8,863.1	5,916.2	.....	.....	1,216.4	.....	.....	.....	.....	.....	.....	.....
1995.....	9,086.0	6,076.2	1,896.0	4,208.5	1,254.3	1,231.2	787.9	342.0	489.4	.....	.....	.....
1996.....	9,425.8	6,288.3	1,960.9	4,331.7	1,365.3	1,341.6	861.5	361.4	541.4	.....	.....	.....
1997.....	9,845.9	6,520.4	2,075.3	4,465.3	1,535.2	1,465.4	965.5	387.9	615.9	.....	.....	.....
1998.....	10,274.7	6,862.3	2,215.5	4,662.1	1,689.4	1,624.4	1,081.4	407.7	705.2	.....	.....	.....
1999.....	10,770.7	7,237.6	2,392.0	4,853.1	1,837.6	1,775.5	1,194.3	408.2	805.0	.....	.....	.....
2000.....	11,216.4	7,604.6	2,518.2	5,093.6	1,963.1	1,906.8	1,311.3	440.0	889.2	.....	.....	.....
2001.....	11,337.5	7,810.3	2,597.3	5,214.1	1,825.2	1,870.7	1,274.8	433.3	860.6	.....	.....	.....
2002.....	11,543.1	8,018.3	2,702.9	5,318.5	1,800.4	1,791.5	1,173.7	356.6	824.2	.....	.....	.....
2003.....	11,836.4	8,244.5	2,827.2	5,418.2	1,870.1	1,854.7	1,189.6	343.0	850.0	.....	.....	.....
2004.....	12,246.9	8,515.8	2,963.3	5,562.7	2,058.2	1,992.5	1,263.0	346.7	917.3	.....	.....	.....
2005.....	12,823.0	8,803.5	3,076.7	5,726.8	2,172.3	2,122.3	1,347.3	351.8	995.6	.....	.....	.....
2006.....	12,958.5	9,054.5	3,178.9	5,875.6	2,231.8	2,172.7	1,455.5	384.0	1,071.1	.....	.....	.....
2007.....	13,206.4	9,282.9	3,273.5	5,990.2	2,159.5	2,130.6	1,550.0	438.2	1,106.8	.....	.....	.....
2008.....	13,161.9	9,211.7	3,192.9	6,017.0	1,939.8	1,978.6	1,537.6	466.4	1,059.4	.....	.....	.....
2009.....	12,757.9	9,032.6	3,098.2	5,930.6	1,458.1	1,602.2	1,259.8	368.1	885.2	.....	.....	.....
2010.....	13,063.0	9,196.2	3,209.1	5,987.6	1,658.0	1,598.7	1,288.5	310.6	963.9	.....	.....	.....
2011.....	13,299.1	9,426.8	3,331.0	6,101.5	1,744.0	1,704.5	1,378.2	319.2	1,070.0	.....	.....	.....
2012 P.....	13,591.1	9,604.9	3,433.0	6,178.0	1,911.0	1,850.1	1,484.9	351.3	1,143.5	.....	.....	.....

"Survey of Current Business", August 2011, U.S. Bureau of Economic Analysis

"Economic Report of the President", March 2013

Stage 3 Growth Rate for MS-DCF Data Sources for Real GDP in 2009 \$

Current-Dollar and "Real" Gross Domestic Product						3/27/15
Annual			Quarterly			
(Seasonally adjusted annual rates)						
	GDP in billions of current dollars	GDP in billions of chained 2009 dollars		GDP in billions of current dollars	GDP in billions of chained 2009 dollars	
1929	104.6	1,056.6	1947q1	243.1	1,934.5	
1930	92.2	966.7	1947q2	246.3	1,932.3	
1931	77.4	904.8	1947q3	250.1	1,930.3	
1932	59.5	788.2	1947q4	260.3	1,960.7	
2002	10,977.5	12,908.8	1965q2	732.4	3,926.4	
2003	11,510.7	13,271.1	1965q3	750.2	4,006.2	
2004	12,274.9	13,773.5	1965q4	773.1	4,100.6	
2005	13,093.7	14,234.2	1966q1	797.3	4,201.9	
2006	13,855.9	14,613.8	1966q2	807.2	4,219.1	
2007	14,477.6	14,873.7	1966q3	820.8	4,249.2	
2008	14,718.6	14,830.4	1966q4	834.9	4,285.6	
2009	14,418.7	14,418.7	1967q1	846.0	4,324.9	
2010	14,964.4	14,783.8	1967q2	851.1	4,328.7	
2011	15,517.9	15,020.6	1967q3	866.6	4,366.1	
2012	16,163.2	15,369.2	1967q4	883.2	4,401.2	
2013	16,768.1	15,710.3	1968q1	911.1	4,490.6	
2014	17,418.9	16,085.6	1968q2	936.3	4,566.4	

Download for Bureau of Economic Analysis web site. Middle years and some quarters omitted to enable data to fit on this page. Use the 2009 dollars column.

<http://www.bea.gov/national/Index.htm>

Stage 3 Growth Rate for MS-DCF Long-Term Inflation Rate

Year	(a) Long-Term Gov. Yields		(c) Inflation-Indexed Bonds		(e) Long-Term Inflation Rate	
	SBBI Text	SBBI Apndx.	SBBI Text	Daily	SBBI Text	AAR Calc
2009	4.6 %	4.58 %	2.0 %	2.03 %	2.6 %	2.55 %
2010	4.1	4.14	1.6	1.59	2.6	2.55
2011	2.48	2.48	0.53	0.53	1.95	1.95
2012	2.41	2.41	0.15	0.15	2.26	2.26
2013	n/a	3.67	n/a	1.36	n/a	2.31
2014	n/a	2.40	n/a	0.68	n/a	1.72

n/a = no longer available

Sources:

- (a) Ibbotson SBBI Valuation Yearbook, chapter 4. For 2012 data, 2013 edition, page 52.
- (b) SBBI Appendix B, Table B-9 (Long-Term Government Bonds), December Beginning in 2014, data from Ibbotson® SBBI® Classic Yearbook (Classic Yearbook). 2013 is from Table 2-2 of the Classic Yearbook, on page 42. The 2013 and 2014 numbers are also found in the Ibbotson SBBI Market Report with data as of December, in Table 3 on page 9.
- (c) Ibbotson SBBI Valuation Yearbook, chapter 4. For 2012 data, 2013 edition, page 52.
- (d) Treasury Constant Maturities, Inflation Indexed, 20-Year, Business Day, last day of year <http://www.federalreserve.gov/releases/H15/data.htm>
- (e) Ibbotson SBBI Valuation Yearbook, chapter 4. For 2012 data, 2013 edition, page 52.
- (f) Column (b) less column (d)

Relevant year-end figures from download.

Market yield on U.S. Treasury securities at 20-year constant maturity, quoted on investment basis, inflation-indexed	
Unit:	Percent_Per_Year
Multiplier:	1
Currency:	NA
Unique Identifier:	H15/H15/RIFLGFCY20_XII_N.B
Time Period	RIFLGFCY20_XII_N.B
12/31/2009	2.03
12/31/2010	1.59
12/31/2011	0.53
12/31/2012	0.15
12/31/2013	1.36
12/31/2014	0.68



Market Value Data for MSDCF Stock Price for CSX - End of 2014

CSX Corp. (CSX) - NYSE ★ Watchlist + Add to Watchlist

33.93 +0.44(1.31%) 4:01PM EST

After Hours : **33.93** 0.00 (0.00%) 4:33PM EST

Historical Prices Get Historical Prices for CSX

Set Date Range

Start Date: Eg. Jan 1, 2010

End Date:

Daily
 Weekly
 Monthly
 Dividends Only

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Prices						
Date	Open	High	Low	Close	Volume	Adj Close*
Jan 6, 2015	34.34	34.51	33.34	33.49	14,501,200	33.49
Jan 5, 2015	35.40	35.54	34.78	34.88	8,624,500	34.88
Jan 2, 2015	36.11	36.45	35.50	35.85	4,688,300	35.85
Dec 31, 2014	36.53	36.57	36.16	36.23	4,863,000	36.23
Dec 30, 2014	36.71	36.73	36.35	36.43	4,089,400	36.43
Dec 29, 2014	36.55	36.96	36.45	36.81	2,884,000	36.81
Dec 26, 2014	36.72	36.85	36.62	36.68	1,781,100	36.68
Dec 24, 2014	36.65	36.75	36.48	36.56	1,570,700	36.56
Dec 23, 2014	36.67	36.76	36.30	36.63	3,545,400	36.63
Dec 22, 2014	35.97	36.49	35.95	36.43	4,800,300	36.43
Dec 19, 2014	35.85	36.24	35.75	35.76	11,798,200	35.76

Retrieved January 7, 2015.

Link to web page: <http://finance.yahoo.com/q/hp?s=CSX>

Market Value Data for MSDCF Stock Price for KSU - End of 2014

Kansas City Southern (KSU) - NYSE ★ Watchlist + Ad

113.27 ↑0.56(0.50%) 4:02PM EST

After Hours : **113.27** 0.00 (0.00%) 4:33PM EST

Historical Prices

[Get Historical Prices](#)

Set Date Range

Start Date: Eg. Jan 1, 2010

End Date:

Daily
 Weekly
 Monthly
 Dividends Only

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Prices						
Date	Open	High	Low	Close	Volume	Adj Close*
Jan 6, 2015	115.31	115.61	111.69	112.71	1,259,800	112.71
Jan 5, 2015	119.10	119.10	115.15	115.24	910,100	115.24
Jan 2, 2015	122.18	122.90	119.04	120.42	806,300	120.42
Dec 31, 2014	123.15	123.67	121.84	122.03	472,000	122.03
Dec 30, 2014	123.31	123.69	122.49	122.68	649,400	122.68
Dec 29, 2014	121.89	123.88	121.19	123.75	531,300	123.75
Dec 29, 2014	0.28 Dividend					
Dec 26, 2014	122.65	123.42	122.36	122.41	313,100	122.13
Dec 24, 2014	123.38	123.56	122.28	122.50	230,000	122.22
Dec 23, 2014	122.60	123.96	122.29	123.30	600,700	123.02
Dec 22, 2014	120.58	122.86	120.50	122.45	908,900	122.17
Dec 19, 2014	118.74	120.65	117.31	120.29	1,563,300	120.01
Dec 18, 2014	117.27	118.02	115.83	118.02	1,120,700	117.75
Dec 17, 2014	117.54	115.97	110.92	115.36	1,187,500	115.10

Retrieved January 7, 2015.

Link to web page: <http://finance.yahoo.com/q/hp?s=KSU>

Market Value Data for MSDCF Stock Price for NSC - End of 2014

Norfolk Southern Corporation (NSC) - NYSE ★ Watchlist + Ad

103.00 0.00(0.00%) 4:04PM EST

After Hours : **103.00** 0.00 (0.00%) 4:33PM EST

Historical Prices

[Get Historical Prices](#)

Set Date Range

Start Date: Jun 2 1982 Eg. Jan 1, 2010

End Date: Jan 7 2015

- Daily
- Weekly
- Monthly
- Dividends Only

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Prices						
Date	Open	High	Low	Close	Volume	Adj Close*
Jan 6, 2015	105.57	105.87	102.54	103.00	4,233,200	103.00
Jan 5, 2015	108.71	108.89	106.25	106.30	2,801,100	106.39
Jan 2, 2015	110.70	111.06	107.91	109.15	1,424,900	109.15
Dec 31, 2014	111.23	111.23	109.41	109.61	1,045,200	109.61
Dec 30, 2014	111.37	112.22	110.40	110.82	993,200	110.82
Dec 29, 2014	110.83	112.06	110.47	111.79	954,400	111.79
Dec 26, 2014	111.56	112.06	111.02	111.54	918,300	111.54
Dec 24, 2014	111.50	111.80	110.61	111.41	754,700	111.41
Dec 23, 2014	110.53	111.56	110.18	111.20	1,286,600	111.20
Dec 22, 2014	109.42	110.32	108.20	110.02	1,793,200	110.02
Dec 19, 2014	109.18	109.60	108.09	109.05	3,011,100	109.05
Dec 18, 2014	106.78	109.00	106.67	108.98	3,755,700	108.98
Dec 17, 2014	102.49	105.59	101.45	105.25	3,251,000	105.25
Dec 16, 2014	101.25	104.45	101.06	102.33	2,335,100	102.33
Dec 15, 2014	102.16	103.07	101.36	101.67	2,535,100	101.67

Retrieved January 7, 2015.

Link to web page: <http://finance.yahoo.com/q/hp?s=NSC>

Market Value Data for MSDCF Stock Price for UNP - End of 2014

Union Pacific Corporation (UNP) - NYSE ★ Watchlist + Adc

112.85 ↑ 0.62(0.55%) 4:05PM EST

After Hours : **113.00** ↑ 0.15 (0.13%) 4:47PM EST - Nasdaq Real Time Price

Historical Prices Get Historical Prices

Set Date Range

Start Date: Eg. Jan 1, 2010

End Date:

Daily
 Weekly
 Monthly
 Dividends Only

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Prices						
Date	Open	High	Low	Close	Volume	Adj Close*
Jan 6, 2015	114.28	114.29	111.66	112.23	6,315,000	112.23
Jan 5, 2015	118.31	118.31	114.47	114.60	4,602,500	114.60
Jan 2, 2015	119.93	120.80	117.66	118.61	3,082,700	118.61
Dec 31, 2014	120.72	120.77	119.02	119.13	2,345,800	119.13
Dec 30, 2014	120.21	120.82	119.68	120.25	2,274,400	120.25
Dec 29, 2014	119.54	120.95	119.09	120.70	1,998,900	120.70
Dec 26, 2014	120.88	120.99	120.07	120.39	1,666,000	120.39
Dec 24, 2014	120.61	121.10	120.26	120.30	1,001,500	120.30
Dec 23, 2014	120.91	121.40	120.30	120.68	2,202,500	120.68
Dec 22, 2014	119.06	120.74	118.94	120.41	3,186,300	120.41
Dec 19, 2014	118.60	119.98	118.11	118.47	6,126,600	118.47
Dec 18, 2014	116.95	118.89	116.45	118.87	5,279,700	118.87

Retrieved January 7, 2015.

Link to web page: <http://finance.yahoo.com/q/hp?s=UNP>

Market Value Data for MSDCF Shares Outstanding for CSX - End of 2014

10-Q 1 csx0926201410-q.htm 10-Q

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

FORM 10-Q

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

For the quarterly period ended September 26, 2014

OR

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

For the transition period from _____ to _____

Commission File Number 1-8022

CSX CORPORATION

(Exact name of registrant as specified in its charter)

Virginia	62-1051971
<i>(State or other jurisdiction of incorporation or organization)</i>	<i>(I.R.S. Employer Identification No.)</i>
500 Water Street, 15th Floor, Jacksonville, FL	32202
<i>(Address of principal executive offices)</i>	<i>(Zip Code) (Telephone number, including area code)</i>

No Change

(Former name, former address and former fiscal year, if changed since last report.)

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

Yes (X) No ()

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

Yes (X) No ()

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

Large Accelerated Filer (X) Accelerated Filer ()
Non-accelerated Filer () Smaller Reporting Company ()

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

Yes () No (X)

There were 995,397,303 shares of common stock outstanding on September 26, 2014 (the latest practicable date that is closest to the filing date).

Market Value Data for MSDCF Shares Outstanding for KSU - End of 2014

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-Q

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended September 30, 2014

or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____
Commission File Number 1-4717

KANSAS CITY SOUTHERN
(Exact name of registrant as specified in its charter)

<p>Delaware <i>(State or other jurisdiction of incorporation or organization)</i></p> <p>427 West 12th Street, Kansas City, Missouri <i>(Address of principal executive offices)</i></p>		<p>44-0663509 <i>(I.R.S. Employer identification No.)</i></p> <p>64105 <i>(Zip Code)</i></p>
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816.983.1303
(Registrant's telephone number, including area code)

No Change
(Former name, former address and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):
 Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
 (Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	October 16, 2014
Common Stock, \$0.01 per share par value	110,360,358 Shares

Market Value Data for MSDCF Shares Outstanding for NSC - End of 2014

10-Q 1 nsc0930201410-q.htm 10-Q

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the quarterly period ended **SEPTEMBER 30, 2014**

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the transition period from _____ to _____

Commission file number 1-8339



NORFOLK SOUTHERN CORPORATION
(Exact name of registrant as specified in its charter)

Virginia (State or other jurisdiction of incorporation) Three Commercial Place Norfolk, Virginia (Address of principal executive offices)	52-1188014 (IRS Employer Identification No.) 23510-2191 (Zip Code)
(757) 629-2680 (Registrant's telephone number, including area code)	
No Change (Former name, former address and former fiscal year, if changed since last report)	

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes No

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes No

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

<u>Class</u>	<u>Outstanding at September 30, 2014</u>
Common Stock (\$1.00 par value per share)	309,441,867 (excluding 20,320,777 shares held by the registrant's consolidated subsidiaries)

Market Value Data for MSDCF Shares Outstanding for UNP - End of 2014

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2014

OR

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

For the transition period from _____ to _____

Commission File Number 1-6075

UNION PACIFIC CORPORATION

(Exact name of registrant as specified in its charter)

UTAH

(State or other jurisdiction of
incorporation or organization)

13-2626465

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

1400 DOUGLAS STREET, OMAHA, NEBRASKA

(Address of principal executive offices)

68179

(Zip Code)

(402) 544-5000

(Registrant's telephone number, including area code)

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

Yes No

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

Yes No

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

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

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

Yes No

As of October 17, 2014, there were 889,099,281 shares of the Registrant's Common Stock outstanding.

2014 Cost of Equity Using STB's MSDCF

Company Year	CSX 2014		KSU 2014		NSC 2014		UNP 2014	
<i>Inputs</i>								
Initial Cash Flow	\$1,149.03		\$45.75		\$1,142.66		\$3,492.21	
Input for Terminal C.F.	\$1,951.48		\$401.40		\$1,931.27		\$4,543.15	
Stage One Growth	10.100%		15.450%		11.900%		13.250%	
Stage Two Growth	12.680%		12.680%		12.680%		12.680%	
Stage Three Growth*	4.980%		4.980%		4.980%		4.980%	
Year	Val. 12/31	Pres Val.	Val. 12/31	Pres Val.	Val. 12/31	Pres Val.	Val. 12/31	Pres Val.
1	\$1,265	\$1,125	\$53	\$48	\$1,279	\$1,130	\$3,955	\$3,522
2	1,393	1,102	61	51	1,431	1,117	4,479	3,552
3	1,534	1,079	70	53	1,601	1,105	5,072	3,582
4	1,688	1,057	81	56	1,792	1,092	5,745	3,612
5	1,859	1,035	94	59	2,005	1,080	6,506	3,643
6	2,095	1,037	106	60	2,259	1,076	7,331	3,655
7	2,360	1,039	119	62	2,545	1,071	8,260	3,668
8	2,660	1,042	134	63	2,868	1,066	9,307	3,680
9	2,997	1,044	151	65	3,232	1,062	10,488	3,693
10	3,377	1,046	170	67	3,642	1,057	11,818	3,705
Terminal	80,816	25,043	32,425	12,706	78,943	22,919	220,541	69,146
Sum of Pres. Values	\$35,648.99		\$13,289.59		\$33,775.58		\$105,456.07	
Market Value (input)	\$35,684.99		\$13,289.59		\$33,775.58		\$105,456.07	
Cost of Equity	12.43%		9.82%		13.16%		12.30%	
Prev. Yr. Cost of Equity	13.25%		9.57%		13.97%		13.90%	

Preferred Stock

Cost of Preferred Equity Capital

Step 1: Calculate Average Stock Price and Annual Dividend

KSU \$25 par pref., 4%, noncummm.	Stock Price			Dividend
	High	Low	Avg.	
Q1	\$27.00	\$24.15	\$25.575	\$0.25
Q2	\$28.33	\$25.95	\$27.140	\$0.25
Q3	\$29.00	\$26.00	\$27.500	\$0.25
Q4	\$29.60	\$26.52	\$28.060	\$0.25
Year			\$27.069	\$1.00

Step 2: Calculate Cost of Preferred Equity Capital Using Dividend Yield method

	Annual Dividend	Average Price	Yield
KSU \$25 par preferred, 4%, noncumulative	\$1.00	\$27.069	3.694%
Cost of Preferred Equity			3.69%
Previous Year Cost of Preferred Equity			3.87%

Market Value of Preferred Equity

	Outstanding Shares	Average Price	Market Value
KSU \$25 par preferred, 4%, noncumulative	242,170	\$27.069	\$6,555,239