

A REVIEW OF

MN Rules Chapter 8106 Pertaining to the Valuation & Assessment of Railroads In the State of Minnesota

Prepared by

**Brent Eyre, ASA
5198 S. Persille Dr.
Taylorsville, UT 84129**

November 17, 2011

This report was prepared under contract with the Minnesota Department of Revenue, St. Paul, Minnesota. The views expressed in this report are those of the consultant and contractor and do not necessarily reflect the views of the Minnesota Department of Revenue or any branch of the Minnesota State Government.

CONTENTS

	<u>Page</u>
Executive Summary.....	1
Findings Regarding the Minnesota Rule.....	1
Recommendations Regarding the Minnesota Rule.....	5
Preface and Scope.....	7
Background.....	9
Brief Description of Minnesota Statute and Rule	9
Unit Valuation.....	9
Cost Approach.....	11
Income Approach.....	12
Stock and Debt Approach.....	13
Correlation or Reconciliation.....	14
Bankrupt Railroads.....	14
Allocation.....	15
Adjustments for Exempt or Nonoperating Property.....	15
Survey of States.....	16
Valuation Methodology Dictated by Rule, Statute or Judgment.....	17
Market Approach to Value.....	18
Cost Approach to Value.....	20
Income Approach to Value.....	22
Methodology for Shortline Railroads.....	28
Correlation.....	28
Interstate Allocation.....	29
Railroad Valuation Best Practices.....	31
Cost Approach.....	31
Income Approach.....	34
Market Approach.....	37
Preferred Methods for Railroad Companies.....	38
Preferred Methods for Shortline Railroads.....	40
Findings and Recommendations.....	41
Findings Regarding the Appraisal Practices of Other States.....	41
Findings Regarding the Minnesota Railroad Rule.....	42
Recommendations Regarding the Minnesota Rule.....	48
Certification of the Consultant.....	50
Appendices	

LIST OF APPENDICES

Appendix 1	Minnesota Railroad Rule
Appendix 2	Survey of States Matrix
Appendix 3	Sample Appraisal
Appendix 4	Professional Qualifications of Consultant

EXECUTIVE SUMMARY

This report was prepared under contract with the Minnesota Department of Revenue (MDOR). The purpose of the report is to evaluate the current rule (MN Rules Chapter 8106) that the MDOR uses to value railroad property in the state of Minnesota for property tax purposes (to be referred to as the Rule) and make recommendations for revisions. Specifically, the consultant performed the following tasks:

- Performed a full review of Minnesota's statutes and rules pertaining to the valuation and assessment of railroad property.
- Surveyed other states concerning the methodologies employed to value and assess utility property.
- Reviewed current railroad valuations performed by the Minnesota Department of Revenue.
- Questioned and surveyed various national experts in the area of railroad valuation.
- Made recommendations about possible amendments to the Minnesota railroad valuation rule.
- And, prepared a sample appraisal that emulates the recommendations.

Findings Regarding the Minnesota Railroad Rule

The consultant finds the Minnesota Rule to be a rigid, somewhat inflexible rule.

The consultant finds that the Rule requires the application of the unitary method of valuation to be used to value railroad property. This is the proper method of valuation for this type of property.

The consultant finds that the Rule requires the consideration of all three standard approaches to value for unitary properties; cost approach, income approach and stock and debt approach. This is a proper and an essential requirement.

The consultant finds that the Rule prescribes an HCLD (Historical cost less depreciation) cost approach to value. This is in line with what the vast majority of states perform for railroad companies. However, the consultant finds the Rule requires the use of what is referred to as the “Blue Chip Method” to adjust the cost approach for obsolescence. The “Blue Chip Method” is a discredited method that creates a hypothetical “super” railroad that is compared to the subject railroad. This is an improper method to use in the valuation of railroads.

The consultant finds that the Rule and the MDOR practice allows for inclusion in the cost approach for CWIP and operating leased property. This is in line with what other states are doing.

The consultant finds that the Rule prescribes a basic yield capitalization methodology for the income approach. The basic formula for the method is as follows:

$$\text{Income Approach Value} = \text{NROI Estimate} / \text{Weighted Average Cost of Capital}$$

(NROI is defined as net railway operating income)

A similar income approach model was used by 71% of the states that perform income approaches. This model is simplistic and thus requires numerous assumptions by the appraiser in order to be valid. The Rule gives no flexibility to the MDOR to select alternative income approach methods and to use multiple income approach methods.

The consultant finds that the Rule provides for a 5 year simple average of historical net railway operating income as the basis for estimating the NROI to be capitalized. The Rule gives no flexibility to the MDOR to use alternative methods of estimating income or select from multiple income estimates. The consultant finds this to be a very strict and rigid definition of this important variable.

The consultant finds that the Rule makes no provision for an adjustment in the income approach for the full value of property held under operating lease agreements. This is also out of line with how other states perform their assessments.

The consultant finds that the Rule provides that the capitalization rate will be the weighted average cost of capital. This is the correct rate to use in yield capitalization. The consultant also finds that the Rule does not specify what method or data sources to use when determining the cost of equity. The consultant finds this to be preferable in order to give the appraiser the flexibility to exercise his or her appraisal judgment.

The consultant finds that the Rule implies that a book capital structure should be used when determining the weighted average cost of capital. This is improper when the task is to find the market value of the subject railroad. The consultant also finds that the Rule requires the embedded cost of debt to be used when determining the weighted average cost of capital. This is also improper when the task is to find the market value of the subject railroad.

The consultant finds that the Rule prescribes that the stock and debt approach should be considered when valuing railroad property. This is proper and is in line with how the vast majority of states value railroad property.

The consultant finds the Rule to require the use of a 12-month average stock price in the estimation of the equity value of the subject property. The use of a 4th quarter average or weighted average would be more proper in the determination of the value of the subject property on January 1.

The consultant finds the Rule to prescribe the use of 12-month average "cost of money" quotes to value the subject property's long term debt. January 1st market values of long term

debt are typically available for publicly traded railroads and would be more proper in the determination of the value of the subject property on January 1.

The consultant finds the Rule to prescribe the use of an income influence ratio in estimating the equity value of the subject property when the subject property is a subsidiary of a publicly traded parent company. The consultant finds this to be a reasonable method to estimate the subject property's equity value when the subject is a subsidiary of a publicly traded parent.

The consultant finds that not all liabilities that represent a claim on the assets of the railroad (i.e., current liabilities) are required by the Rule to be included in the stock and debt approach.

The consultant finds that the Rule makes no provision for an adjustment in the stock and debt approach for the full value of property held under operating lease agreements. This is improper and out of line with how other states perform their assessments.

The consultant finds the Rule prescribes weightings to be applied to the cost, income and stock and debt approaches in the correlation (reconciliation) process. This is out of line with the vast majority of other states. The consultant finds the use of prescribed weightings in the correlation process to be improper and prevents the appraiser from reaching market value.

The consultant finds the Rule prescribes that for a railroad operating at a loss or in bankruptcy proceedings that no income approach shall be performed. In this situation the Rule prescribes that only a cost and stock and debt approach should be performed. The consultant finds this to be reasonable.

The consultant finds the rule provides a method for allocating a portion of the correlated system value to the State of Minnesota. The Rules provides for a multi-factor formula. Almost

all the other states use a similar multi-factor formula. The consultant finds that the factors prescribed by the Rule are not out of line with the norm.

The consultant finds the Rule provides a method for eliminating the value of exempt property (i.e., personal property) and other property that is to be assessed by local county assessors (i.e., nonoperating property). These properties are to be eliminated through a calculation that the rule refers to as a "restated cost" ratio. The consultant finds this provision to be improper. The system value is a combination of a cost approach, a stock and debt approach and an income approach. The deduction is done at cost ratio. The elimination of non-taxable property from an allocated system value should always be done at the same level of value as the system value.

Recommendations Regarding the Minnesota Railroad Rule

As a general statement, the consultant recommends that the Rule be amended to provide more flexibility to the MDOR in arriving at market value. Following are specific recommendations made by the consultant:

- The Rule should be amended to eliminate prescribed use of the "Blue Chip Method" to determine obsolescence in the cost approach
- The Rule should be amended to allow for more than one income approach to value. This would include Direct Capitalization, Constant Growth Yield Capitalization and Discounted Cash Flow, etc.
- The Rule should be amended to eliminate the strict method prescribed for estimating future income. The Rule should give more flexibility to the appraiser to estimate future income.
- The Rule should be amended to provide for the inclusion in the income approach of the full value of property held under operating lease agreements.
- The Rule should be amended to provide for a market capital structure and a market cost of debt in the determination of the weighted average cost of capital.

- The Rule should be amended to allow for methods of estimating the value of equity and debt in the stock and debt approach that are more reflective of the value of these securities at or around January 1.
- The Rule should be amended to provide for the inclusion in the stock and debt approach of the full value of property held under operating lease agreements.
- The Rule should be amended to allow for the inclusion in the stock and debt approach all liabilities that constitute a claim on the assets of the railroad, this would include current liabilities.
- The Rule should be amended to eliminate the prescribed correlation (reconciliation) weightings. The appraiser should be given full flexibility to use appraisal judgment in arriving at a market value estimate.
- The Rule should be amended to change the prescribed manner in which exempt or nonoperating property is eliminated from the allocated system value. The elimination of exempt or nonoperating property should always be done at the same level of value as the system value. The proper way to make these eliminations is to compute a system value to system cost value or system book value ratio. The appraiser would then apply this ratio to the cost or book value of the property to be eliminated.

PREFACE AND SCOPE

In their never-ending search for market value, appraisers of railroad or other types of unitary property are constantly bombarded with different appraisal methodologies from numerous sources. Many forums throughout the country attempt to provide a framework toward possible standardization of methodology. Although it is obviously too much to ask for everyone to agree on all aspects of the appraisal process, some areas of the process can and should have standards of practice applied to them.

In the laws of most, if not all, states there is a definition of market value for property tax purposes. Also, in many states, this definition may be the only statutory guidance given to the assessor for determining the value of property for property tax purposes. Hence, it is left to the policy makers or assessing jurisdictions to determine the most appropriate method for meeting their market value mandate. Indeed, the approach of every market value definition presupposes that, like Plato's ideal, there is in fact a "market value," that it exists, that it can be pointed to, pictured, recognized and can be used as the standard against which valuation figures may be compared.

With this scenario in mind, an appraiser should be able to judge success in valuation by how well his/her valuation corresponds with this so-called "ideal". However, the valuation process does not work this way. First, valuation is an art, not a science. All of this is simply a sophisticated effort at "let's pretend", and all of it involves judgment. Not natural law, not science—judgment.

It has been against this background that this consultant has been retained to evaluate the current rule that the Minnesota Department of Revenue has promulgated and uses to value railroad property in the State of Minnesota for property tax purposes. Specifically, the charge to

the consultant was to “review the MN Rules Chapter 8106 and make recommendations for revision”.

To fulfill this charge, the consultant has performed the following tasks: performed a full review of Minnesota statutes and rules pertaining to the valuation and assessment of railroad property; reviewed recent valuations of railroad companies performed by the Minnesota Department of Revenue; surveyed 33 states concerning the methodologies employed to value and assess railroad property; questioned and surveyed various national experts in the area of railroad valuation.

The consultant has also called upon his own experience and expertise of over twenty-four years in the valuation of railroad properties in fulfilling this assignment. A summary of the consultant’s qualifications is found in Appendix 4 of this report. The following report is the result of the aforementioned efforts.

BACKGROUND

Brief Description of Minnesota Statute and Rule

Minnesota Statute 273.11 provides that all property in Minnesota “shall be valued at its market value”. To this end the Minnesota Department of Revenue (“MDOR”) has promulgated Minnesota Rules, Chapter 8106 (the “Rule”). The Rule is used by the MDOR to value railroad operating property. “Operating property” is defined in the Rule as; “all property owned or used on a regular and continual basis by a railroad company in the performance of railroad transportation services, including without limitation, franchises, rights-of-way, bridges, trestles, shops, docks, wharves, buildings, and structures.” A copy of the pertinent rules are found in Appendix 1 of this report.

Unit Valuation

The Rule requires that railroad companies be valued as units. A brief discussion of the unit value concept would be proper at this point.

The appraisal of large interstate properties as a going concern involves analysis of the system’s operations using the unit valuation concept. Unit appraisal means valuing an integrated group of operating assets functioning as an economic unit as “one thing” without reference to the independent value of the component parts.¹ The essential premise of the unit valuation concept is that the value of a complex property is a function of the interaction of the various components of the property. To ascertain the market value of such a property, one must quantify the value of the system as it functions as an integral unit.

¹ Western States Association of Tax Administrators, *Appraisal Handbook – Unit Valuation of Centrally Assessed Properties*, (2009), Pg. I-8.

Unit valuation requires valuing a public service property as a going concern.² Going concern value is defined in appraisal literature in the following way:

“Going concern value includes an intangible enhancement of the value of an operating business enterprise which is produced by the assemblage of the land, building, labor, equipment, and marketing operation. This process creates an economically viable business that is expected to continue.”³

The intangible enhancement referred to in the above definition does not represent separate identifiable assets that are intangible. Rather, any intangible enhancement is an integral part of the group of assets making up the operating unit. By operating together as a unit, the operating assets achieve their highest and best use.

The courts have adopted this “enhancement” doctrine. This is what the Utah Supreme Court had to say:

“...fair market value reflects the benefit stream created by unitary operation of tangible property. If the legislature had desired to limit assessed value to the materials and installation costs of tangible assets, it could easily have done so. Since it did not do so, we conclude that the statutory and constitutional fair market value requirements recognize some element of value that is not attributable to either intangibles or simple cost and that this enhanced value is taxable.”⁴

A unit appraisal should include indicators within the three primary approaches to value; cost, income and market. The market value estimate is indicative of the price at which the operating properties of a railroad operating as a unit could be sold on the date of appraisal. More than thirty states use the unitary method to appraise railroad properties for property tax purposes.

² “Going concern” as used here is not synonymous with enterprise value. Enterprise value is a broader term which encompasses the value of a corporate entity including all of its tangible and intangible assets; it is a valuation of the present owner’s total business in contrast to the exchange valuation of tangible assets as a going concern.

³ The Appraisal Institute, *The Appraisal of Real Estate*, 10th Edition, 1992, pg. 23.

⁴ *Beaver County v. Wiltel, Inc.* 995 P.2d 602 (Utah 2000).

This is the most appropriate method to determine the market value of a unit of operating assets functioning as a going concern.

Cost Approach

The Rule prescribes an historical cost less depreciation (HCLD) cost approach. The cost is described as a "restated cost". This is the cost after the railroad converted from retirement-replacement-betterment accounting to conventional depreciation accounting. Rolling stock and equipment held under operating lease agreements is included in the cost approach. The depreciation described in the Rule is book depreciation. The Rule also provides for an obsolescence deduction from the HCLD determination. Obsolescence is calculated through the use of what is known as the "Blue Chip Method". This deduction is based on a "study" performed by the MDOR from information compiled annually by the Wisconsin Department of Revenue. The "Blue Chip Method" compares the subject railroad with the best railroads in the country. Three performance indicators are calculated by the MDOR for the subject railroad and compared to the same performance indicator for the best railroad in the country from the Wisconsin study. The three performance indicators are, A) Average Rate of Return (net railroad operating income divided by net investment, B) Average Freight Density (ton miles of revenue freight divided by average miles of road operated, and C) Average Gross Profit Margin (net railroad operating income before taxes divided by gross revenue. All three performance indicators are calculated using five-year averages for the subject railroad. Each year the railroad with the highest performance in each indicator is selected as the "Blue Chip" railroad for that indicator and a five-year average is calculated to compare with the subject railroad's performance. An obsolescence percentage is calculated for each performance indicator by comparing each of the subject railroad's indicators with each of the "Blue Chip" railroad's

indicators. An overall obsolescence percentage is determined for the subject railroad by averaging each of the three indicated obsolescence percentages for the subject railroad.

A railroad's cost approach includes all the following Surface and Transportation Board (STB) accounts: all road and equipment accounts, including leased equipment accounts; all general expenditures; and other elements of investment and railroad property owned and leased to others as well as railroad property leased to others. The sum of these account costs represents the "Gross Cost Indicator". A book depreciation amount is then deducted from the Gross Cost Indicator to arrive at a "Net Cost Indicator". The obsolescence adjustment is calculated only on what is termed the "Net Road" amount. The Net Road amount is determined by taking the gross cost in the Road accounts and deducting any land or personal property in these accounts. This results is the "Adjusted Road" amount. From the Adjusted Road amount is deducted the book depreciation associated with this property. This results in the Net Road amount. The calculated obsolescence percentage determined from the Blue Chip Method is then applied to the Net Road amount to determine the "Obsolescence Amount". The Obsolescence Amount is then deducted from the Net Cost Indicator to determine the "Adjusted Cost Indicator of Value". This is the Cost Approach for the subject railroad as prescribed by the Rule.

Income Approach

The Rule prescribes a basic "no-growth" yield capitalization methodology for the income approach. The basic formula for this method is as follows:

$$\text{Income Approach Value} = \text{Net Railway Operating Income Estimate} / \text{Capitalization Rate}$$

This value represents the Income Approach Value under the Rule.

The Rule provides for a 5 year weighted average of historical net railway operating income (NROI) as the basis for estimating the income stream to be capitalized. The Rule makes no provision for an adjustment to the estimated NROI for miscellaneous rental income or construction work in progress. The Rule provides that the capitalization rate will be a weighted average cost of capital computed by using the band of investment method. The capital structure used should be a book capital structure. The Rule provides that the cost of debt used in the weighted average cost of capital should pay "particular attention to the imbedded debt of railroads"; the cost of preferred stock should reflect the yield on preferred stock of railroads; and the cost of equity should reflect the yield on common stock of railroads.

The Rule provides for no adjustment to the income approach for the value of property held under operating lease agreements.

Stock and Debt Approach

The Rule provides that the stock and debt approach to value will be performed only when three qualifications are met: A) The stock of the railroad must be traded on either the New York or American Stock Exchange; B) The bonds of the railroad must be traded or have a rating by either Standard and Poor's or Moody's rating services; and C) If the railroad is part of a diversified company, the value of the railroad portion of the total stock price must be able to be allocated on an earnings basis. If a railroad has no earnings, and is part of a conglomerate, then the stock and debt indicator will not be performed.

The Rule provides that the value of the equity of a railroad will be based on the average of the month-ending stock prices for the 12 months immediately preceding the assessment date. The value of the debt of a railroad will also be based on the cost of money quotes for the 12

months immediately preceding the assessment date. The sources of these stock and debt prices shall be Standard and Poor's Stock and Bond guides or other applicable financial services.

After the determination of the Gross Stock and Debt Value of the railroad, the Rule provides that an adjustment be made to eliminate the effects on this indicator from non-railway operations. This adjustment will be based on the ratio of Net Revenue from Railway Operations to all Income Available for Fixed Charges. The ratio is multiplied by the Gross Stock and Debt Value to determine the Net Stock and Debt Indicator of Value.

The Rule provides for no adjustment to the stock and debt indicator for the value of property held under operating lease agreements.

Correlation or Reconciliation

The Rule provides that the unit value of the railroad to be determined by correlating or reconciling the indicators of value. If all three indicators of value are performed, the unit value will be determined by giving 15% weight to the cost approach, 60% weight to the income approach, and 25% weight to the stock and debt approach. If no stock and debt approach is performed the 25% weight will be given to the cost approach.

Bankrupt Railroad or Railroads With No Net Railway Operating Income

The Rule provides that bankrupt railroads or railroads with no net railway operating income will be valued using the cost and stock and debt approaches to value. If the railroad does not meet the qualifications for the use of the stock and debt approach, then the railroad will be valued using only the cost approach.

Allocation

The Rule provides a method for allocating a portion of the correlated unit value to the State of Minnesota. The method prescribes allocation factors to determine a final Minnesota allocation percentage. The Rule provides for a four-factor allocation formula: A) Miles of track; B) Ton miles of revenue freight; C) Gross revenues from transportation operations; and D) Cost of road property. The average of these four factors represents the allocated portion of the correlated unit value attributable to Minnesota.

Adjustments for Exempt or Nonoperating Property

The Rule provides that property that is either exempt from Minnesota property tax (i.e., personal property) or is classified as nonoperating (nonformula) will be deducted from the allocated Minnesota unit value. The Rule states that this deduction will be made by first determining the ratio of the cost of Minnesota exempt or nonoperating property to the total cost of Minnesota property. This ratio is then multiplied by the allocated Minnesota unit value. The result is then deducted from the Minnesota unit value. This result represents the Taxable Minnesota Portion of Unit Value.

SURVEY OF STATES

The scope of the consultant's research included a survey of other states. This survey included almost all states that centrally assess railroad companies. The survey also included some states where railroad companies are locally assessed but where unit appraisals are routinely performed by the local assessors. A total of 33 states were surveyed. The consultant personally talked with assessing personnel from all 33 states. Since many of the railroad companies assessed by the MDOR are multi-state companies, the methods used by other states to value these properties become pertinent in this process.

The MDOR gave the consultant an outline of what the survey of states should consist of.

Following is that outline:

1. How many states are primarily guided by "rule"; by statutory provisions; by appraisal judgment?
2. In other states, specifically identify which valuation rules (or statutory provisions) tend to be "rigid" and which tend to be "vague". Specifically, how does Minnesota compare with respect to the use of:
 - a. Formula driven calculations
 - b. Stock & Debt Approach
 - c. Cost Approach
 - d. Construction Work in Progress (CWIP)
 - e. Operating Leased Property
 - f. Income Approach
 - g. Correlation Weighting
 - h. Miscellaneous Rent Adjustment
 - i. Allocation Factors

The discussion that follows is the result of the consultant's survey of the various states pertaining to the information desired by the MDOR as outlined above. A matrix of the results of the consultant's survey of states can be found in Appendix 2 of this report.

Valuation Methodology Dictated by Rule or Statute? Or by Appraisal Judgement?

An ongoing debate among policymakers across the country when they attempt to deal with property tax assessment issues is whether valuation methodology should be strictly dictated by a rule or statute or whether an assessor should have the flexibility to use appraisal judgment in reaching a market value mandate. There are arguments for and against and on both sides of this issue. That is why the results the consultant found for this question run the range of possible outcomes; from very strict and rigid formulas to almost complete freedom in selecting methodology. I would characterize the Minnesota Rule as being quite rigid. What I mean by this is that, in many areas of the appraisal process, the Rule takes away appraiser judgment in making valuation decisions. To a great extent an appraiser, in complying with the Rule, can construct valuation spreadsheets and “hardwire” percentages, weightings, and other data prescribed by the Rule into these spreadsheets and merely transfer data from audited financial statements to these spreadsheets and generate approaches to value and system values.

Of the 33 states surveyed⁵, **18 (55%) of the states stated that their valuation methodology was dictated to them by a rule or statute.** The specific methodology almost always was found in a rule or regulation. The statutes of most states, typically, would only contain a value definition and provisions that certain types of property would be subject to central assessment on a unit valuation basis. Occasionally you would find a state statute that mentions that certain approaches to value should be considered, but rarely would you find specific instructions in statutes that detail how these various approaches should be calculated. These specific instructions are typically found in rules. **15 (45%) states stated that there were no specific rules or statutes that dictated to them the methodology that they should use to**

⁵ Minnesota is always considered one of the 33 states surveyed throughout this report.

produce their valuations. Thus, a majority of the states possess rules or statutes that dictate to them how they should perform their valuations of public utility property. Minnesota is one of these states.

However, the rigidity of these rules varies quite dramatically. **Of the 18 states that have specific valuation rules, only 8 (44%) of these states considered their rules to be "rigid".** The consultant considers the Minnesota Rule to be rigid. **Only 2 (11%) of these states considered their rule to be formula driven.** The consultant does not consider Minnesota's Rule to be formula driven.

The two formula driven states are Arizona and Montana. Both states derived their formulas through settlements with the railroad industry. Arizona's settlement resulted in a rule that requires the Department of Revenue to begin with a starting value and each year that starting value is trended up or down depending upon changes to railroad income and railroad assets. Montana's settlement resulted in a statutory formula that requires that Department of Revenue to begin with a settled value and each year is trended up or down using 3 factors; earnings (weighted 50%), gross margin (weighted 25%) and property (weighted 25%).

Market Approach to Value?

The market approach is one of the three standard approaches to value. The market approach is based on the principle of substitution, since an investor would not pay more for a property than the price at which a reasonable substitute could be acquired. The market approach generally involves an analysis of comparable properties that have sold. For some types of properties, sales rarely occur and alternative forms of analysis must be employed. In the absence of sales data, a stock and debt indicator is typically developed in the appraisal of large interstate properties such as railroads. The stock and debt indicator is based on the accounting premise

that the value of the assets equals the value of liabilities plus equity. Most large interstate properties have publicly traded debt and equity securities. Thus, by valuing the liability and equity side of the balance sheet one can infer the value of the assets. When the subject company's securities are traded in the open market, the stock and debt indicator is a relatively straight-forward, strong value indicator. The number of shares outstanding multiplied by the price per share produces the aggregate value of each type of security. The controversy arises in regards to the stock and debt indicator when the subject company is a subsidiary of a larger publicly traded parent company and the value of the subject company's equity and debt must be allocated from the larger parent. The allocation process becomes somewhat subjective.

Of the 33 states surveyed, **27 (82%) of the states responded that they routinely perform market approaches on railroad companies.** The market approach was almost always the stock and debt approach. Occasionally, states would perform analyses of actual market sales of complete units if data was available. The general consensus among states was that the stock and debt approach was given less weight than the income approach in the correlation process. **Only 6 (22%) of the states that routinely perform stock and debt approaches gave the approach significant weight in the correlation process.** Some states performed the stock and debt approach as a "sanity" check against the accuracy of the other approaches to value. Minnesota's Rule states that the stock and debt approach will be performed for railroad companies if certain qualifications are met.

Of the 27 states that routinely perform stock and debt approaches, **20 (74%) adjust the stock and debt approach to include the value of property held under operating lease agreements.** Minnesota's Rule does not account for the value of property held under operating lease agreements in the stock and debt approach.

Cost Approach to Value?

The cost approach is based on the premise that an investor would pay no more for a property than the cost of constructing an acceptable replacement which exhibits the same usefulness as the subject property. This appraisal concept is also known as the principle of substitution. In order for the cost approach to have validity, it must be economically feasible to build a new substitute property rather than purchase the subject property. When considering the cost of railroad property, several types of cost may be analyzed and considered. These costs include the following:

1. **Historical Cost** – The cost at the time a property was originally acquired or constructed and placed into public service.
2. **Trended Historical Cost** – The historical cost factored by reference to some current index.
3. **Reproduction Cost** – The cost of reproducing a new replica property on the basis of current prices, with the same or closely similar material.
4. **Replacement Cost** – The cost of replacing a property with an equally desirable substitute property.

Of the 33 states surveyed, **30 (91%) of the states performed a cost approach to value on railroad companies.** Two of the states that don't perform a cost approach are the two states (Arizona and Montana) that use a formula based on a beginning settled value. Only one other state (Iowa) did not perform a cost approach on railroad companies. Of the 30 states that perform cost approaches, **29 (97%) of the states characterize their cost approach as Historical Cost Less Depreciation (HCLD).** Only one state (California) characterizes its cost approach as Reproduction or Replacement Cost Less Depreciation (RCLD).

Construction Work in Progress in the Cost Approach

Construction Work in Progress (CWIP) represents that cost of property that is not in service or has not been placed in a Plant in Service account as of the assessment date. Since most cost approaches begin with an analysis of Plant in Service accounts, an addition must be made to the cost approach in order to properly account for the value of CWIP. There exists some controversy concerning the treatment of CWIP within the various indicators of value. Some would advocate a discount to the booked costs of long-term construction projects on the theory that since the property will not earn revenue until some time in the future, its market value cannot equal its present cost.

Of the 30 states that perform cost approaches, **21 (70%) of the states include CWIP in their cost approaches at 100% of the booked costs. 3 (10%) of the states include CWIP in their cost approaches at something less than 100% of the booked costs.** Sometimes this discount is a present value discount of the costs from the date of expected conclusion to the assessment date. Other times this discount is a flat percentage. **3 (10%) of the states consider CWIP to be exempt from property taxation and 3 (10%) of the states make no adjustment to the cost approach for CWIP.** Minnesota's Rule provides that CWIP should be included in the cost approach at 100% of booked costs.

Operating Leased Property in the Cost Approach?

The value of held by the railroad under operating lease agreements is a typical adjustment made by unitary appraisers to the various indicators of value. These properties are not owned by the railroad company and thus will not appear in the Plant in Service accounts. Therefore, a separate addition must be made to the cost approach in order to account for these properties that are contributing to the value of the unit.

Of the 30 states that perform cost approaches to value, **29 (97%) of the states make an adjustment to their cost approach for the depreciated value of property held under operating leases. Only one state (Texas) makes no adjustment to the cost approach for property held under an operating lease.** Minnesota's Rule provides that an adjustment should be made to the cost approach for leased property.

Obsolescence Adjustment to the Cost Approach?

Of the 30 states that perform cost approaches, **17 (57%) states make an obsolescence adjustment to the cost approach.** Of the 17 states that make an obsolescence adjustment, **9 (53%) states use income shortfall to make the adjustment, 7 (41%) use the Wisconsin Study to make the adjustment, and 1 (Idaho) state uses another method to make the adjustment.** Minnesota's Rule requires the MDOR to use the Wisconsin Study and make an obsolescence adjustment using the "Blue Chip Method".

Reliance Given to Cost Approach?

Of the 30 states that perform cost approaches, **all 30 (100%) states give little if any reliance to the cost of approach in the correlation process.** Minnesota's Rule allows for 15% weight to the cost approach if all three approaches value are performed. This appears to be the greatest weight given to the cost approach of any of the states surveyed by the consultant. If no stock and debt approach is performed, Minnesota could give the cost approach as much as 40% weight in the correlation process.

Income Approach to Value?

In the income approach, the income which a property is expected to produce is converted into a value estimate through the capitalization process. The income approach is premised on the assumption that investors will buy and sell property based on the income it is expect to yield.

The conversion process is commonly known as income capitalization. Capitalization of income simply recognizes that there is a relationship between the price an investor is willing to pay for assets and the income which will be received from the assets. The capitalization process must take into consideration the type (or level) of income to be capitalized and the timing of the income to be received. The timing of income receipts would not be important except that inflation makes future income less valuable than today's income. Also the impact of delayed consumption makes future income less valuable because of the lost opportunity to invest income today. Future income is also more uncertain and may, therefore, carry additional risk which may reduce the quality of the investment.

Each of these concerns is addressed when the appraiser selects the capitalization techniques which will be used to develop an income approach indicator. The various capitalization techniques address each of these points (level of income, quality of income, timing, inflation) in a somewhat different manner.

Two fundamentally different methods of capitalization may be used in the income approach: 1) Direct Capitalization, and 2) Yield Capitalization. These two capitalization methods may be described in the following way:

Direct capitalization is used to convert and estimate of a single year's income expectancy into an indication of value in one direct step.⁶

Yield Capitalization uses the discounting procedure to convert future income flows to present value on the premise of a required level of return on invested capital.⁷

Direct capitalization converts income into a value estimate according to the formula:

⁶ Western States Association of Tax Administrators, *Appraisal Handbook – Valuation of Utility & Railroad Property*, (1988), pg. 60.

⁷ *Id.*, pg. 60.

$$\text{Value} = \text{Income} / \text{Direct Rate}$$

Yield capitalization converts future cash flows into present value as of the appraisal date using the following formula:

$$\text{Value} = \text{Cash Flows}_1 / (1+r)^1 + \text{Cash Flows}_2 / (1+r)^2 \dots + \dots \text{Cash Flows}_n / (1+r)^n$$

The discounted cash flow (DCF) formula outlined above is the most sophisticated form of yield capitalization. In a traditional DCF model the appraiser makes specific forecasts of the shape and duration of future cash flows.

If the appraiser assumes that the income stream is going to grow at a constant rate the above formula becomes as follows:

$$\text{Value} = \text{Cash Flow}_1 / (\text{Yield Rate} - \text{Growth Rate})$$

The above formula is known as “constant growth” yield capitalization model.

The essential difference between these two capitalization techniques is that direct capitalization converts a single year’s income into value, while in yield capitalization a series of future cash flows are discounted into present value estimates. The reliability of a direct capitalization model is based on the validity of the appraiser’s market observations. The reliability of a yield capitalization model is based on the validity of the appraiser’s assumptions concerning the shape and duration of the future income streams.

Direct capitalization focuses on observable data from the market. By observing the relationship between income and price, direct capitalization provides an estimate of value which is less subjective than estimates derived from yield capitalization techniques. Yield capitalization requires the quantification of all future investor expectations. Direct capitalization requires a reliance on observed data from the market. Hence, direct capitalization is not biased by the appraiser’s view of the future. Instead, in direct capitalization, all future expectations are

reflected in the direct capitalization rate which expresses the relationship between the price paid by the investor and the property's present level of income. Yield capitalization requires an analysis of cash flows, while direct capitalization is typically based on accounting income.

Of the 33 states surveyed, **31 (94%) of the states performed an income approach to value on railroad companies. 2 (6%) of the states did not perform an income approach to value.** Minnesota's Rule provides that an income approach to value will be performed.

Direct or Yield Capitalization?

Of the 31 states that perform an income approach to value, **24 (77%) of the states performed only a yield capitalization, 5 (16%) states performed only a direct capitalization, and 2 (6%) states performed both a yield capitalization and direct capitalization.** Minnesota's Rule provides for only a yield capitalization indicator.

The vast majority of the states that are performing a yield capitalization (22 out 24) use one specific formula in their calculation. This formula is as follows:

$$\text{Value} = \text{Net Railway Operating Income} / \text{Weighted Average Cost of Capital}$$

This formula, on the surface, looks like a direct capitalization model since income is being converted to value in one step. However, this formula is actually a consolidated form of yield capitalization with a number of assumptions. This model is sometimes referred to as a "no-growth" perpetuity model. The assumptions made by the appraiser in order to justify the above formula include the following:

- 1) Net Operating Income = Net Cash Flow
- 2) Depreciation + Other Noncash Expenses = Capital Expenditures
- 3) No real growth is expected in the future, i.e., expected return on investment exactly equals the company's cost of capital
- 4) Inflation will have no effect on the company's earnings in the future
- 5) Direct Capitalization Rate = Yield Capitalization Rate

The two “yield capitalization” states that do not perform the no-growth yield capitalization are Oregon, which performs a traditional DCF valuation, and Utah which performs a constant growth yield capitalization. The two states that perform both a direct capitalization and yield capitalization are Mississippi and Washington. Washington’s yield capitalization is a constant growth yield capitalization.

The typical yield rate used by states in the above yield capitalization model is a weighted average cost of capital. The Minnesota Rule provides for the above described no-growth perpetuity model. The yield rate prescribed by the Minnesota Rule is a weighted average cost of capital. **The Minnesota Rule, however, has a very rigid provision for estimating the Net Operating Income to capitalize. There is no room for appraisal judgment in the estimation of income to capitalize. This rigid provision is unique for Minnesota among those states that perform income approaches.**

Construction Work in Progress in the Income Approach?

Since CWIP has not contributed to the earnings of a company in past years, there is general consensus in the appraisal field that an adjustment needs to be made in the income approach to account for the future earning capability of CWIP. This is especially true for CWIP that is expanding or enhancing the property of the railroad.

Of the 31 states that perform income approaches, **13 (42%) of the states make a specific adjustment in their income approach to account for effects of this type of CWIP. 18 (58%) of the states make no adjustment to their income approach for CWIP. 3 (10%) of the no adjustment states (Florida, Maryland and South Carolina) exempt CWIP by statute. Minnesota’s Rule makes no provision to adjust the income approach for CWIP.**

Operating Leases in the Income Approach?

Since lease payments are fully deducted as an operating expense, the lessor's interest in the property held under an operating lease agreement is removed from the income approach unless an adjustment is made. The full fee simple interest in all railroad operating property, which includes operating leased property, should be valued in each approach to value.

Of the 31 states surveyed that perform an income approach to value, **24 (77%) of the states made an adjustment to the income approach to account for the full value of property held under an operating lease agreement. 7 (23%) of the states make no adjustment to their income approach for operating leased property.** Minnesota's Rule makes no provision for an adjustment to the income approach for property held under an operating lease.

Adjust for Miscellaneous Rental Income?

Most railroad companies receive significant income from the rent of their right-of-way or other land. Examples of this type of income would be rents received from a fiber optic company that uses the railroad right-of-way to lay their cable. This income is not accounted for in an operating railroad revenue account but is accounted for in a "miscellaneous rent" account. If this income is from the rent of operating right-of-way or operating land, then it should be considered operating income. Many states include all or part of this income in their income approach.

Of the 31 states that perform an income approach, **17 (55%) states adjust their income approach to include all or part of this miscellaneous rental income. 14 (45%) states do not make an adjustment to their income approach for this miscellaneous income.** Minnesota makes no adjustment to their forecasted income for miscellaneous rental income.

Methodology for Shortline Railroads?

In addition to the large Class I railroads, most states have several shortline railroads that they assess annually. All states (100%) surveyed attempt to use similar methodologies to appraise the shortline railroads that they use to appraise the large railroads. However, there may be slight modifications to these methods to accommodate the difference in size. For example, hardly any state will perform a stock and debt approach on a shortline railroad. Most states will perform only a cost approach and an income approach on shortline railroads. Many states will perform their own unique capitalization rate study for shortlines. There are two publicly traded companies (Genesee & Wyoming and RailAmerica) that own a significant number of the shortline railroads in the United States. These two companies can serve as excellent guideline companies in determining capitalization rates for shortline railroad companies. Some states will take their Class I railroad capitalization rate and increase it arbitrarily by 200 or 300 basis points to accommodate what they perceived to be the difference in risk between shortline and Class I railroads.

Correlation? (Reconciliation)

After all approaches to value have been completed, the next step in the unit appraisal process requires a correlation of the approaches into a final unit value estimate. The correlation or reconciliation process accounts for the relative strengths and weaknesses which are inherent in each approach. The reliability of a value indicator is a function of: 1) the applicability of the procedure to the subject property, and 2) the quality and quantity of the input data which was available.

Some procedures are better suited for certain types of properties than others. For example, the cost approach is most applicable to new properties which are at highest and best

use, where the principle of substitution is operable. The older the property, the more difficult it is to measure depreciation for the cost approach.

Data for each approach varies in both quantity and quality. Input data to each procedure may reduce the quality of the resulting indicator if it is subject to large probabilities of error. When possible, the data utilized in each procedure is based on actual verifiable facts. When this is not possible, this lack of verifiability should be reflected in the correlation process.

The correlation process should be the area of the appraisal assignment where the appraiser's judgment is most prevalent. This is where confidence can be shown for the existence of substantial data of good quality and where lack of confidence can be shown for lack of quantity and quality of data. This is why it is imperative that the appraiser be unfettered from rules or statutes that prescribe specific weightings for the value indicators.

Of the 33 states surveyed, 31 (94%) of the states perform a correlation of multiple approaches to value. Of the 31 states that perform a correlation, 26 (84%) of the states are allowed to use appraisal judgment in the correlation process. Only 5 (16%) of the states are required to use prescribed weightings. These states are Arkansas, California, Georgia, Idaho and Minnesota. Minnesota's Rule specifies the exact weightings that must be used in the correlation process.

Interstate Allocation?

After determining a final system value, the appraiser must allocate a portion of this value to an individual state. Typically, allocation formulas contain a combination of property, income and use factors which are readily available and not burdensome for the taxpayer to provide. Many states, such as those in the Western United States, have banded together to standardize allocation formulas. This attempt at standardization is beneficial since it insures that no more or

no less than 100% of the value of a utility is allocated to the states in which it has property. In the case of the unitary valuation of railroad companies, most states use a multi-factor formula that has received national acceptance.

Of the 33 states surveyed, 33 (100%) of the states performed an interstate allocation of their unit values. Of the 33 states that perform an interstate allocation, 32 (97%) of the states use a multi-factor formula to allocate their unit value. 1 (3%) of the states (Georgia) uses a one-factor formula to allocate their unit. Minnesota's Rule prescribes a multi-factor allocation formula for the MDOR to use.

RAILROAD VALUATION "BEST PRACTICES" HOW SHOULD RAILROADS BE APPRAISED

The laws of most states contain a definition of value for property tax purposes. The descriptive words may be full cash value, actual cash value, true cash value, fair cash value, fair market value, or market value. It is assumed that all of these terms contemplate a transaction between a willing buyer and a willing seller under what is termed "open market conditions". These open market conditions include: 1) No duress, 2) No collusion, 3) A reasonable time allowed finding a buyer, 4) All parties having a reasonable knowledge of the property's uses, and 5) Consideration is in the form of cash or its equivalent.

The natural comment from the critic of central assessment is that since the properties sell so infrequently, a market value benchmark can never be established. The mere fact that sales may be scarce does not preclude the appraiser from attempting to estimate a value at the defined market value level. That is why it is so imperative that the appraiser not be restricted in the methods that are at his or her disposal in order to estimate market value. Statutes, rules and regulations should be established that give an appraiser access to all the "tools" that may be necessary to reach the market value mandate. An appraiser is like a carpenter with a tool box. Some assignments will require one tool and some assignments will require another tool. Access to all tools is what makes a carpenter efficient. The same is true with appraisers. What follows is a discussion by the consultant about the various approaches to value and their uses.

Cost Approach

The cost approach is based on the principle of substitution. The principle of substitution holds that people will not pay more for a property than the cost of a satisfactory substitute with equal utility assuming no unreasonable delay in obtaining the substitute property. Also, a

knowledgeable owner of the property will not sell the property for less than the current cost of a substitute property.

The words, “equal utility”, mean that the property or its substitute is valuable only for the useful functions it can be expected to perform presently and during the future. A property may have features that were desirable when the property was created but are not considered useful today or during the future; therefore, the cost of the substitute property would not include allowance for such features.

Since railroad properties are valuable for the income they are expected to produce (as opposed to amenity values for owner-occupied residences), it stands to reason that the utility of a property relates both to the income the property produces today and the length of time the property can be expected to continue producing the income. A new property and an existing property may produce the same income currently and, therefore, have equal “utility” at the moment, but the new property will produce the income for a longer time than the existing property. This difference in total utility creates a difference in the value of the existing property versus a new substitute property. This difference between new and existing property is depreciation.

From a theoretical viewpoint, a property should be worth the cost of a new substitute property less depreciation. The primary tasks in any cost approach are to estimate the cost of the substitute property and the proper level of depreciation.

The cost approach is considered a meaningful tool for estimating market value under certain conditions. Three cost concepts have potential application to unitary properties such as railroads—replacement, reproduction and historical. The relevance of these concepts will vary depending upon economic and regulatory influences on the market.

Replacement cost is the cost to replace an existing facility with one of equal utility. In the case of properties with growth potential and not subject to strict government regulation, the competitive forces of the market establish a return on replacement cost new which is sufficiently high to induce additional investment. In a non-growth industry, the market establishes a return satisfactory to investors on a replacement cost new less depreciation (RCNLD) basis. Consequently, in a nonregulated industry, replacement cost either with or without depreciation can be an important and valid indicator of value. If government regulation is deficient or ineffective, RCNLD may also be valid for the appraisal of a unitary company. The reason for these conclusions is that the market may permit earnings which are sufficiently high to return the replacement cost of the investment together with a rate of return satisfactory to investors.

Reproduction cost may be different from replacement cost. It is the cost of an exact duplication insofar as is possible of an existing facility. This cost concept also has relevance as a value indicator whenever the market forces permit returns satisfactory to investors.

In the case of railroad companies which are governed by the Minnesota Rule, replacement cost and reproduction cost are impractical cost approaches to perform. One difficulty in using replacement or reproduction cost is that it is difficult to estimate the indirect costs and value enhancement that would be appropriate for large interstate railroad companies. Another term for enhancement is entrepreneurial profit. Entrepreneurial profit includes costs such as marketing, employee training and advertising cost which are necessary to the start-up of the going concern. Entrepreneurial profit is the difference between the cost to construct a property and its market value at the start of income production. Entrepreneurial profit can be quite large for large railroad companies where there are large barriers to entry into the market. This is why historical cost less depreciation (HCLD) is generally considered the most appropriate cost approach to perform for railroad companies. However, for railroads, the cost

approach should be given little if any reliance because there is no observable relationship between cost and market value.

The strengths of the cost approach are that it provides a relatively stable indicator and an objective reference point for comparing one property to other properties in the same industry. It is useful for allocation, for estimating age and remaining life of the property, and the data for calculating it is relatively simple to obtain and verify. It is particularly useful for newer properties, where the income stream has not matured and where sales data are not readily available.

It is a weak indicator to value when the property is relatively old, such as most railroad companies, when significant technological or economic changes have occurred since the property was placed in service, or when it is clear that prudent management would not reconstruct the property in its present form. Even under these circumstances, it remains useful as a comparison among properties of similar types.

Income Approach

The income approach is based on the appraisal principle of anticipation. The approach may be described as any method that converts future anticipated income into present value. The conversion process is commonly known as income capitalization. The income approach is premised on the assumptions that investors will buy and sell property based on the income it is expected to yield and that investors will discount expected income at its attendant risk rate over its anticipated duration. The income approach is a conceptually sound method to estimate market value for income producing properties, but it requires many difficult estimates and judgments. Judgments by informed persons can differ, and consequently values indicated by this approach may differ significantly.

Application of the income approach requires estimating future annual income for a period of time and converting income into a value estimate by means of a capitalization rate, discount rate, or present worth factor. The critical ingredients of the approach are future income, duration of income, capitalization rate, and method of capitalization.

For appraisal purposes, income is the anticipated net benefits a property will provide to its owners over time. Benefits must be expressed in terms of money or order to apply the income approach. Benefits expressed in money are common with public utility property since such properties are owned and operated for the purpose of producing money income.

Gross income or gross revenue is the total amount of income anticipated from operating the property prior to taking into account the burdens (costs) necessary to produce the income. Net operating income is the money benefits that remain after gross income is reduced by burdens. These remaining net benefits represent the income rational investors (both equity and debt) take into account in making decisions to buy or sell property.

For railroad properties, benefits originate from the cooperative effort of a group of integrated assets functioning as a single unit. Income arises in the aggregate and is not known or recorded on an asset-by-asset basis. Each asset required for the system operation makes an implicit contribution to income through its beneficial use.

The selection of a capitalization technique is a very important part of any income approach. There are numerous variations of the income approach that an appraiser can select from. The use of more than one technique in an appraisal allows the appraiser to use different assumptions about the shape and duration of the future income stream and will lead to a more informed result. The purpose of a capitalization method is to transform anticipated income estimates into value. Some methods involve simple calculations using a single year's income

while others require the use of complex discounting techniques and sophisticated cash flow analysis. Capitalization techniques can be placed into two categories—direct capitalization and yield capitalization.

Direct capitalization is used to convert an estimate of a single year's income expectancy into an indication of value in one direct step. With direct capitalization, no explicit assumptions need to be made about the amount and duration of future income. All the conditions necessary to satisfy investor demands are implicit in the market-derived capitalization rate. That is why the reliability of a direct capitalization model depends on the quality and the quantity of the market observations used to develop the capitalization rate.

Yield capitalization uses the discounting procedure to convert future income flows to present value on the premise of a required level of return on invested capital. With yield capitalization, the model contains implicit assumptions of the shape and duration of the future cash flow streams. Investors' assumptions of growth are impounded in the cash flow stream and the yield capitalization rate. The reliability of a yield capitalization model depends on the credibility of the appraiser's implicit assumptions.

The no-growth perpetuity capitalization technique prescribed by the Minnesota Rule and used by numerous states is correctly categorized as yield capitalization. One might contend that capitalizing a level income flow into perpetuity is a form of direct capitalization. The similarity, however, is appearance only, not in concept. Because the model uses a yield capitalization rate and because of the implicit assumptions (described earlier in this report), this model is yield capitalization.

Market Approach

As stated previously, the statutes of most states contain a definition of market value. This definition almost always contemplates a sale or transaction. With this definition in mind, it stands to reason that the market approach should be the preferred valuation method when sales data are available. There is general consensus that there is not an active market for complete railroad units. There are, however, sales that do take place. The laws of states should not prohibit appraisers from analyzing the sales that do take place and apply their appraiser judgment as to how to best use this data in the unitary appraisal process.

In the absence of comparable sales data, the stock and debt approach can be used as a surrogate for the market sales approach in valuing railroad companies. The conceptual basis for the stock and debt approach is an accounting principle that holds that the total value of a firm's assets is equal to the total value of its liabilities and stockholder's equity. Firms purchase assets using equity and debt financing. Purchases of assets from internal cash flows are usually considered a contribution from existing equity and debt holders. For firms that have publicly traded securities (stocks and bonds), market prices can be obtained for sales of fractional portions of these debt and equity securities. Accordingly, the market prices can be applied to the total group of securities to obtain the market value of the firms' assets.

As with all other indicators of value, the stock and debt method has some merits and some deficiencies. The positive aspects of this approach include its relationship to market prices. The stock and debt evidence of unit value consists essentially in ascertaining the market's consensus as to the values of interest in the property. Adding up the market values of individual units of a company's equity and debt interests in property presumably results in gross market value.

The stock and debt indicator works best when the company whose property is being valued is engaged in only one business. When a company is the subsidiary of a parent holding company or if it has subsidiary operations of its own that are not related to its primary business, estimates and subjective judgments must be made to determine the portion of the total that relates to the property being valued. The allocation factor may be that proportion of earnings contributed by the subsidiary, or the percentage of total assets used by the subsidiary, or other similar rational factors. Do these current financial relationships provide reasonably accurate value estimates? The relative size of the subject to the parent along with Wall Street or other analysts' commentaries can be of significant assistance in answering this question.

Unlike the cost approach and the income approach, the stock and debt indicator in its purest form requires no forecasts or subjective judgments: it is directly tied to market evidence. It must be acknowledged on the other hand that subjective elements inevitably play an important role in the practical application of this method of finding property value. Seldom, if ever, is the firm being valued a pure unitary business. Synthetically constructed stock value, roughly estimated deductions for nonoperating property, and the question of whether the market is efficient can raise questions regarding the accuracy of the approach.

The stock and debt indicator provides a meaningful test to the validity of other valuation approaches that suffer from limitations of their own. Used in conjunction with other accepted appraisal approaches, the stock and debt indicator is a valuable tool to the appraiser in establishing market value.

Preferred Methods for Railroad Companies

All three approaches to value described above can and should be used to value railroad companies. For railroad companies covered by the Minnesota Rule, a few rules of thumb can be

used. The preferred cost approach for railroad companies is HCLD. For all the reasons previously mentioned in this report, the HCLD cost approach is preferred. HCLD cost indicators are generally not adjusted further to account for appreciation or depreciation. A deduction from HCLD for obsolescence is just as inconsistent as adding value to HCLD because some of the railroads property has increased in value since it was acquired, or the railroad's earnings are extraordinarily high for some reason.⁸ For mature railroad companies with long histories of income production, there should be sufficient data to perform a reliable income approach to value. This would include the performance of more than one income indicator of value. The data resources needed to calculate capitalization and discount rates for these types of companies is available and extensive. Audited historical income statements as well as analyst forecasts of income are available to aid the appraiser in forecasting future income streams. When the data is available and extensive to perform a reliable income approach, the income approach is typically the preferred approach to value. This is the approach relied upon by investors in these types of properties.

Interstate railroad companies are usually parts of publicly traded parent companies. Many times they are the major portion of the publicly traded parent. This makes the stock and debt indicator of value a viable indicator. For publicly traded companies, the data sources available to the appraiser to produce a valid stock and debt indicator are extensive and should be utilized.

⁸Western States Association of Tax Administrators, *Appraisal Handbook – Unit Valuation of Centrally Assessed Properties*, (2009), Pg. II-12.

After all is said and done, the method or methods selected by the appraiser should fit the appraiser's set of valuation assumptions and facts. In absence of clear displays of investor behavior, it is always wise to use more than one method.

Preferred Methods for Shortline Railroads

In addition to large Class I railroads, most states have several shortline railroads that they must assess on an annual basis. States sometimes struggle to find appropriate methodologies to use in appraising these railroads. Shortline railroads can be appraised using similar unitary valuation methods that are applied to Class I railroads. Because most shortline railroads are not publicly traded or constitute a major portion of a publicly traded parent, stock and debt approaches are normally not performed for shortlines. However, since shortline railroads are often bought and sold, sales comparison approaches can be performed if a significant amount of market data is obtained. Income and cost approaches (HCLD) can and should be performed for shortlines. The basic cost approach and income capitalization techniques can be performed similarly for shortlines

If at all possible, a separate capitalization rate study should be performed for shortline railroads. There are two publicly traded companies (Genesee & Wyoming and RailAmerica) that are basically holding companies for numerous shortline railroads. Genesee & Wyoming owns and operates 63 shortline and regional freight railroads. RailAmerica has a portfolio of 40 individual shortline railroad companies. These two companies can serve as excellent guideline companies in performing a separate capitalization rate study for shortline railroads. Making arbitrary adjustments to the Class I capitalization rate to emulate the different risk of shortlines should be avoided.

FINDINGS AND RECOMMENDATIONS

Findings Regarding the Appraisal Practices of Other States

The consultant finds that a majority of states (55%) have their railroad valuation methods governed by a rule or statute. However, only a small percentage of these states (44%) would characterize their rule or statute as being "rigid". An ever smaller percentage of these states (11%) would characterize their rule or statute as being "formula driven".

The consultant finds that a very large percentage of states (82%) perform stock & debt approaches on utility companies. However, only 22% of these states routinely gave the stock & debt approach significant reliance in the correlation process. The consultant also found that a large majority of states (74%) adjust the stock and debt approach to include the value of property held under operating lease agreements.

The consultant finds that almost all states (91%) perform a cost approach to value. The vast majority of these states (97%) perform an HCLD cost approach. A majority of these states (70%) also include CWIP in their cost approaches at 100% of the booked costs. A large majority of states (97%) make an adjustment to their cost approaches for operating leased property. The consultant also finds that a majority of states (57%) make an obsolescence adjustment to their cost approach. Of the states that make an obsolescence adjustment, 53% use income shortfall and 41% use the Wisconsin Study. The consultant further found that all (100%) states gave little if any reliance to the cost approach in the correlation process. The 15% weight allowed by the Minnesota Rule appears to be the greatest weight given to the cost approach of any of the states surveyed by the consultant.

The consultant finds that almost all of the states (91%) perform an income approach to value on their railroad companies. Of these states, 77% of them characterize their income

approach as yield capitalization. Of the states that perform yield capitalization, 92% perform the “no-growth” yield capitalization. The consultant also finds less than a majority of states (42%) adjust their income approach for the value of CWIP. A large majority of states (77%) adjust their income approach to capture the full value of property held under operating lease agreements. The consultant further finds that a majority (55%) of states adjust their income approach to include all or part of miscellaneous rental income in their income forecast.

The consultant finds that 94% of the states perform a correlation (reconciliation) of multiple approaches to value. The vast majority of these states (84%) use appraisal judgment when performing their correlation. The consultant also finds that Minnesota is one of only 5 states that are required to use prescribed weightings in the correlation process.

The consultant finds that 100% of the states perform an interstate allocation of their utility valuations. Of these states, the overwhelming majority (97%) use a multi-factor formula to allocate their unit value.

Findings Regarding the Minnesota Rule

The consultant finds the Minnesota Rule to be a rigid, somewhat inflexible rule.

The consultant finds that the Rule requires the application of the unitary method of valuation to be used to value railroad property. This is the proper method of valuation for this type of property.

The consultant finds the Rule to allow for the performance of the stock and debt (market) approach. The stock and debt approach is one of the three basic approaches to value. Minnesota is in line with the majority of states that allow and do perform stock and debt approaches to value. The stock and debt approach has been widely used as a surrogate for the market approach for railroad companies.

However, the consultant finds that the Rule does not provide for the inclusion within the stock and debt approach or income approach for the value of property held under operating lease agreements. Leasing assets needed for the operation of a railroad company is a common practice. This form of long-term financing is widespread, and is used with such assets as locomotives, railcars, other rolling stock, aircraft, buildings, etc. Leased assets that are capitalized in a firm's financial statements (capital leases) present no particular problem to the appraiser because costs, revenues, and expenses associated with these assets are recorded in the same manner as owned property. If the income capitalized into value is based on a forecast of the firm's operating income, then the capitalized leased property will be fully reflected in the stock and debt and income approaches to value. Non-capitalized or operating leased assets, however, present a different situation. The cost of these assets is not shown on the lessee's balance sheet and asset schedules, but lease payments are shown on the income statement as operating expenses. The lease payments represent the income stream going to the lessor. The value of the lessor's interest in the leased assets will be effectively removed from the income indicator if lease expenses are allowed to the lessee.⁹ Thus, an adjustment must be made to the income approach and the stock & debt approach to include the lessor's interest in these operating leased properties.

Some appraisers attempt to make this operating lease adjustment by adjusting the operating expense and interest expense accounts of the unitary company to emulate what he or she feels they would be if all operating leased property were, in fact, owned property. This is a difficult, if not, impossible task to perform. That is why most assessing jurisdictions make this

⁹ Western States Association of Tax Administrators, *Appraisal Handbook – Unit Valuation of Centrally Assessed Property*, (2009), Pg. III-33 thru III-36.

adjustment by determining the value of the lessor's interest in these operating leased assets and adding this amount to the value determined by capitalizing the operating net cash flow of the subject property. This adjustment is best determined by discounting the future net lease payments that are going to the lessor back to present value and adding to this amount a residual or terminal value of the leased assets to determine the total value attributable to the lessor. This process will insure that the full fee simple interest in the operating lease assets is determined.

The value of the lessor's interest in the operating leased property can best be determined if the actual cash flows that are received by the lessor are discounted back to present value. This value should be added to the stock and debt and income approaches to value.

The consultant finds the Rule to require the use of a 12-month average stock price in the estimation of the equity value of the subject property. Since the annual assessment requires a value at or close to first of the year, the use of a 12-month average does not accomplish this. The use of a 4th quarter average or weighted average would be more proper in the determination of the value of the subject property on January 1. The consultant also finds the Rule to prescribe the use of 12-month average "cost of money" quotes to value the subject property's long term debt. January 1st market value of long term debt are typically available for publicly traded railroads and would be more proper in the determination of the value of the subject property on January 1.

The consultant finds the Rule to prescribe the use of an income influence ratio in estimating the equity value of the subject property when the subject property is a subsidiary of a publicly traded parent company. The consultant finds this to be a reasonable method to estimate the subject property's equity value when the subject is a subsidiary of a publicly traded parent.

An asset influence ratio could also be applied in conjunction with the income influence ratio to provide an even more reliable estimate of equity value.

The consultant further finds that not all liabilities that constitute a claim on the assets of the railroad (i.e., current liabilities) are required to be included in the stock and debt approach.

The consultant finds that the Rule prescribes an HCLD cost approach to value. This is in line with what the vast majority of states perform for railroad companies. However, the Rule provides for an obsolescence deduction from HCLD. This deduction is based on the “Blue Chip Method” using the annual Wisconsin Study. The consultant finds that the use of the “Blue Chip Method” is improper. The “Blue Chip Method” is an attempt by some appraisers to find some use of HCLD as an indicator of value. It is a discredited attempt. This method involves comparing a mixture of economic, quality, and various efficiency factors among a larger group of railroads. In each category, the railroad with the “best” statistic is the standard, and the other railroads are supposed to have obsolescence present in some proportion to the difference between the subject’s statistics and the best.¹⁰ This method creates a hypothetical “best” railroad that doesn’t exist anywhere. The result of the calculations is interesting, but does not effectively measure the relationship between value and HCLD. The inherent assumption in this method that a railroad’s value cannot exceed HCLD is invalid.¹¹

The consultant finds that the Rule allows for an adjustment in the cost approach for CWIP and operating leased property. This is in line with what other states are doing.

The consultant finds that the Rule prescribes a basic yield capitalization methodology for the income approach. The basic formula for the method is as follows:

¹⁰ Id., Pg. II-13.

¹¹ Id.

Income Approach Value = NROI Estimate / Weighted Average Cost of Capital

A similar income approach model was used by 71% of the states that perform income approaches. This model is simplistic and thus requires numerous assumptions by the appraiser in order to be valid.

The consultant finds that the Rule provides for a 5 year simple average of historical net railway operating income as the basis for estimating the NROI to be capitalized. The consultant finds this to be a very strict and rigid definition of this important variable. The consultant finds that the Rule makes no provision for an adjustment to the estimated NROI for CWIP.

The consultant finds that the Rule makes no provision for an adjustment in the income approach for the full value property held under operating lease agreements. This is also out of line with how other states perform their assessments. A discussion on this issue was provided earlier in this report.

The consultant finds that the Rule provides that the capitalization rate will be the weighted average cost of capital. This is the correct rate to use in yield capitalization. The consultant also finds that the Rule does not specify what method or data sources to use when determining the cost of equity, cost of debt or capital structure. The consultant finds this to be preferable in order to give the appraiser the flexibility to exercise his or her appraisal judgment.

The consultant finds that the Rule implies that a book capital structure should be used when determining the weighted average cost of capital. This is improper when the task is to find the market value of the subject railroad. The capital structure used in the calculation of a weighted average cost of capital should be based on current security market values.¹²

¹² Id., Pg. III-27 & III-28.

The consultant also finds that the Rule requires the embedded cost of debt to be used when determining the weighted average cost of capital. This is also improper when the task is to find the market value of the subject railroad. The use of embedded debt rates in estimating the weighted average cost of capital results in an income approach which reflects high or low interest debt instruments at their face value rather than at their market value. The current market rate of debt should be used.¹³

The consultant finds the Rule prescribes weightings to be applied to the cost, income and stock and debt approaches in the correlation (reconciliation) process. This is out of line with the vast majority of other states. The consultant finds the use of prescribed weightings in the correlation process to be improper and prevents the appraiser from reaching market value. The use of mechanical weightings, especially if identical weightings are used on all properties, is not an accepted appraisal practice because it fails to recognize the varying reliability of the data or the applicability of each approach. Prescribed weightings are not a substitute for an appraiser who can assemble the facts and fit them into cause and effect relationships, which then lead to final value conclusions.¹⁴

The consultant finds the Rule prescribes that for a railroad operating at a loss or in bankruptcy proceedings that no income approach shall be performed. In this situation the Rule prescribes that only a cost and stock and debt approach should be performed. The consultant finds this to be reasonable.

The consultant finds the Rule provides a method for allocating a portion of the correlated system value to the State of Minnesota. The Rules provides for a multi-factor formula. Almost

¹³ Id., Pg. III-29.

¹⁴ Id., Pg. VII-4.

all the other states use a similar multi-factor formula. The consultant finds that the factors prescribed by the Rule are not out of line with the norm.

The consultant finds the Rule provides a method for eliminating the value of exempt property and other property that, by statute, is to be assessed by local county assessors (i.e., personal property and nonoperating property). These properties are to be eliminated through the calculation of what the Rule refers to as a "restated cost" ratio. The consultant finds this provision to be improper. The system value is a combination of a cost approach, a stock and debt approach and an income approach. The deduction is done at a cost ratio. The elimination of non-taxable property from an allocated system value should always be done at the same level of value as the system value.

Recommendations Regarding the Minnesota Rule

As a general statement, the consultant recommends that the Rule be amended to provide more flexibility to the MDOR in arriving at market value. Following are specific recommendations made by the consultant:

- The Rule should be amended to allow for methods of estimating the value of equity and debt in the stock and debt approach that are more reflective of the value of these securities at or around January 1.
- The Rule should be amended to provide for the inclusion in the stock and debt approach of the full value of property held under operating lease agreements.
- The Rule should be amended to allow for the inclusion in the stock and debt approach all liabilities that constitute a claim on the assets of the railroad, this would include current liabilities.
- The Rule should be amended to eliminate prescribed use of the "Blue Chip Method" to determine obsolescence in the cost approach. The HCLD cost approach should stand on its own as an indicator of value without any further adjustment.

- The Rule should be amended to allow for more than one income approach to value. This would include Direct Capitalization, Constant Growth Yield Capitalization and Discounted Cash Flow, etc.
- The Rule should be amended to eliminate the strict method prescribed for estimating future income. The Rule should give more flexibility to the appraiser to estimate future income.
- The Rule should be amended to provide for the inclusion in forecasted income a component for CWIP that exists on the appraisal date.
- The Rule should be amended to provide for the inclusion in the income approach of the full value of property held under operating lease agreements.
- The Rule should be amended to provide for a market capital structure and a market cost of debt in the determination of the weighted average cost of capital.
- The Rule should be amended to eliminate the prescribed correlation (reconciliation) weightings. The appraiser should be given full flexibility to use appraisal judgment in arriving at a market value estimate.
- The Rule should be amended to change the prescribed manner in which exempt or nonoperating property is eliminated from the allocated system value. The elimination of exempt or nonoperating property should always be done at the same level of value as the system value. The proper way to make these eliminations is to compute a system value to system cost value or system book value ratio. The appraiser would then apply this ratio to the cost or book value of the property to be eliminated.

A sample appraisal that incorporates the above recommendations is found in Appendix 3 of this report.

CERTIFICATION OF THE CONSULTANT

I certify that, to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct.

The reported analyses, opinions and conclusions are limited by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions and conclusions.


I have no present or prospective interest in the Minnesota property that is the subject of this report, and I have no personal interest or bias with respect to any parties involved in this process.

My compensation is not contingent on an action or event resulting from the analyses, opinions or conclusions in, or the use of, this report.

My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice and the code of ethics of the American Society of Appraisers.

The American Society of Appraisers has a mandatory recertification program for all of its Senior members and I am in compliance with that program.

No one provided significant professional assistance to me in completing this report.


Brent Eyre, ASA

Date 11/17/2011

APPENDIX 1

Minnesota Administrative Rules

8106.0100 DEFINITIONS.

Subpart 1. **Scope.** As used in this chapter, the following words, terms, and phrases have the meanings given to them by this part. Some of the words, terms, and phrases are defined by statute but are included here for completeness.

Subp. 2. **Allocation.** "Allocation" means the process by which a fair and reasonable portion of each railroad's total unit value is assigned to Minnesota for purposes of taxation.

Subp. 3. **Apportionment.** "Apportionment" means the process of distributing that portion of the railroad's unit value which has been allocated to Minnesota after deducting exempt and nonoperating property to the various counties and taxing districts in which the railroad company operates.

Subp. 4. **Assessment/sales ratio.** "Assessment/sales ratio" means the ratio derived by dividing the estimated market value of a property by its adjusted selling price and used as a measure of the level of estimated market value to real or true market value.

Subp. 5. **Book depreciation.** "Book depreciation" means the depreciation shown by a railroad company on its corporate books and allowed the company by the Surface Transportation Board.

Subp. 6. **Capitalization rate.** "Capitalization rate" means an anticipated rate of return from an investment, a rate at which income is processed (capitalized) to indicate the probable capital value. This rate is usually expressed as a percentage.

Subp. 7. **Equalization.** "Equalization" means the adjustment of the estimated market value of railroad operating property to the apparent assessment/sales ratio of commercial and industrial property.

Subp. 8. **Exempt property.** "Exempt property" means property which is nontaxable for ad valorem tax purposes by statutes. An example of such property is personal property exempt from taxation under Minnesota Statutes, chapter 272.

Subp. 9. [Repealed, 28 SR 1297]

Subp. 10. **Mainline track.** "Mainline track" means all track reported to the STB by the respondent railroad as main line.

Subp. 11. [Repealed, L 2003 c 127 art 5 s 50]

Subp. 12. **Obsolescence allowance.** "Obsolescence allowance" means the adjustment to be made to the gross cost indicator of value to reflect the loss of economic usefulness or value because of causes other than physical deterioration.

Subp. 13. **Operating property.** "Operating property" means all property owned or used on a regular and continual basis by a railroad company in the performance of railroad transportation services, including without limitation, franchises, rights-of-way, bridges, trestles, shops, docks, wharves, buildings, and structures.

Subp. 14. **Original cost.** "Original cost" means the amount paid for an asset as recorded on the railroad's books in accordance with STB accounting rules and regulations.

Subp. 15. [Repealed, L 2003 c 127 art 5 s 50]

Subp. 16. [Repealed, L 2003 c 127 art 5 s 50]

Subp. 17. **Restated cost.** "Restated cost" means the cost of an asset recorded on a railroad's

books after adjusting the amount from a retirement-replacement-betterment accounting basis to a depreciation accounting basis, in accordance with Code of Federal Regulations, title 49, part 1201 (effective January 1, 1983).

Subp. 17a. **STB.** "STB" means the Surface Transportation Board, a federal regulatory agency.

Subp. 18. **Structure.** "Structure" means all coal and ore wharves or docks, station houses, depots, shops, office buildings, and all other buildings with a restated cost of over \$10,000.

Subp. 19. **System.** "System" means the total tangible property, real and personal, of a company which is used in its railroad operations in all states in which it operates.

Subp. 20. **Unit value.** "Unit value" means the value of the system of a railroad company taken as a whole without any regard to the value of its component parts.

Subp. 21. **Weighting.** "Weighting" means the confidence or reliability given to a factor or indicator. It is usually expressed as a portion of 100 percent.

Statutory Authority: *MS s 14.388; 270.84; 270C.06*

History: *11 SR 335; L 2003 c 127 art 5 s 50; 28 SR 1297; L 2005 c 151 art 1 s 114*

Posted: *November 14, 2006*

Minnesota Administrative Rules

8106.0400 VALUATION.

Subpart 1. **In general.** The approaches to value that will be used in determining the estimated unit value of railroad operating property are cost, capitalized income, and stock and debt except as provided in subparts 4 and 6.

Subp. 2. **Cost approach to valuation.** The cost factor that will be considered in the railroad valuation method is the restated cost of the railroad system, plus the restated cost of construction work in progress on the assessment date. The railroad system shall be considered to be made up of the following STB accounts: all road and equipment accounts, including leased equipment accounts; all general expenditures; and other elements of investment and railroad property owned and leased to others as well as railroad property leased from others. Book depreciation and obsolescence shall be allowed as a deduction from the restated cost of the railroad's assets enumerated above. The original cost if known, and the annual lease payments of any leased operating property used by the railroad must be reported to the commissioner in conjunction with the annual railroad report. The commissioner shall incorporate the value of the leased property into the railroad's unit value utilizing this information.

Obsolescence will be calculated through the use of the "Blue Chip Method." This method compares the railroad being appraised with the best railroads in the country, the so-called blue chip railroads. Three indicators of obsolescence will be used. First, a five-year average rate of return will be calculated for the railroad under appraisal. This rate of return is computed by dividing the subject's annual net railroad operating income for each of the most recent five years preceding the assessment, by the railroad's total owned transportation property less recorded depreciation and amortization (net investment in railroad property) for each corresponding year. The resulting five rates of return are then averaged using a simple arithmetic average to arrive at a five-year average rate of return. An example of this computation is as follows:

XYZ Railroad

Year	Net Railroad Operating Income	Net Investment	Indicated Rate of Return
....	\$2,700,000	\$31,500,000	8.57%
....	\$2,900,000	\$32,000,000	9.06%
....	\$3,100,000	\$33,500,000	9.25%
....	\$3,300,000	\$34,000,000	9.70%
....	\$3,530,700	\$35,000,000	10.08%
			Total 46.66%
Five-year Average Rate of Return			9.33%

A study will then be made of the Class I railroads operating within the United States for the same five-year period using such informational sources as information compiled annually by the Wisconsin Department of Revenue known as the "Blue Chip" Obsolescence Study for STB Class I

Railroads. Each year the railroad with the highest rate of return will be selected as the blue chip railroad. The resulting five rates of return will then be averaged to find the five-year average blue chip rate of return. An example of this process is as follows:

Year	Railroad	Rate of Return
....	ABC	11.50%
....	FGH	11.27%
....	JKL	10.57%
....	MNO	11.02%
....	XYZ	10.08%
		Total 54.44%
Five-year Average Blue Chip Rate of Return		10.89%

The five-year average rate of return for the railroad under appraisal will be compared to the five-year average blue chip rate of return. The deviation of the subject railroad's rate of return from the blue chip railroads' rate of return is the amount of indicated obsolescence. The following example illustrates the computation.

XYZ Railroad Five-Year Average Rate of Return	9.33%
Blue Chip Five-Year Average Rate of Return	10.89%
Indicated Obsolescence $1 - (9.33\% \div 10.89\%)$	14.30%

Second, a five-year average freight traffic density indicator will be calculated. This indicator is calculated by dividing the subject railroad's ton miles of revenue freight for the most recent five years preceding the assessment by the average miles of road operated for each corresponding year. The resulting five indicators of freight traffic density are then averaged using a simple arithmetic average to arrive at a five-year average of freight traffic density. An example of this computation is as follows:

XYZ Railroad

Year	Ton Miles of Revenue Freight	Average Miles of Road Operated	Indicated Freight Traffic Density
....	1,300,000,000	575	2,260,000
....	1,402,500,000	550	2,550,000
....	1,200,000,000	550	2,180,000
....	1,100,000,000	500	2,200,000
....	1,000,000,000	500	2,000,000
			Total 11,190,000
Five-Year Average Freight Traffic Density			2,238,000

A five-year study is then made of the Class I railroads operating within the United States in the same manner and using the same sources as the rate of return study with the exception that this study concentrates on the freight traffic density achieved by the various Class I railroads. Each year the railroad with the highest freight traffic density will be selected as the blue chip railroad. The resulting five freight traffic density amounts will then be averaged to find the five-year average blue chip freight traffic density amount. An example of this process is as follows:

Year	Railroad	Freight Traffic Density
....	JKL	2,280,000
....	FGH	2,600,000
....	FGH	2,200,000
....	MNO	2,900,000
....	ABC	2,280,000
		Total 12,260,000
	Five-year Average Blue Chip Freight Traffic Density	2,452,000

The five-year average freight traffic density indicator of the railroad under appraisal will be compared to the five-year average blue chip freight traffic density indicator. The deviation of the subject railroad's freight traffic density from the blue chip railroad's freight traffic density is the amount of indicated obsolescence. The following example illustrates this computation:

XYZ Railroad Five-Year Average Freight Traffic Density	2,238,000
Blue Chip Five-Year Average Freight Traffic Density	2,452,000
Indicated Obsolescence $1 - (2,238,000 \div 2,452,000)$	8.70%

Third, a five-year average gross profit margin indicator will be calculated. This indicator measures a railroad's ability to convert gross revenue to net profit. This indicator is calculated by dividing net railway operating income, before federal and deferred taxes, by gross revenues. This calculation is performed using the subject railroad income figures for the most recent five years preceding the assessment. The resulting five indicators of gross profit margin are then averaged using a simple arithmetic average to arrive at a five-year average of gross profit margin. An example of this computation is as follows:

Year	XYZ Railroad		Indicated Gross Profit Margin
	Net Railroad Operating Income Before Taxes	Gross Revenue	
....	4,050,000	15,000,000	27.0%
....	4,350,000	15,800,000	27.5%
....	4,650,000	16,500,000	28.2%
....	4,950,000	17,300,000	28.6%

....	5,295,000	19,000,000	27.9%
			Total 139.2%
Five-Year Average Gross Profit Margin			27.8%

A study will then be made of the Class I railroads operating within the United States for the same five-year period in the same manner and using the same sources in the two previous five-year studies mentioned above. This study will look at the gross profit margin achieved by the various Class I railroads. Each year the railroad with the highest gross profit margin will be selected as the blue chip railroad. The resulting five gross profit margin percents will then be averaged to find a five-year average blue chip gross profit margin percentage. An example of this process is as follows:

Year	Railroad	Gross Profit Margin
....	ABC	30.0%
....	ABC	31.2%
....	JKL	29.9%
....	FGH	32.6%
....	JKL	33.3%
		Total 157.0%
Five-Year Average Blue Chip Gross Profit Margin		31.4%

The five-year average gross profit margin percent for the railroad under appraisal will be compared to the five-year average blue chip gross profit margin percent. The deviation of the subject railroad's gross profit margin from the blue chip railroad's gross profit margin is the amount of indicated obsolescence. The following example illustrates this computation:

XYZ Railroad Five-Year Average Gross Profit Margin	27.8%
Blue Chip Five-Year Average Gross Profit Margin	31.4%
Indicated Obsolescence 1 - (27.8% ÷ 31.4%)	11.5%

The obsolescence percentage indicated by this comparison of gross profit margins will be added to the obsolescence indicated by a comparison of rates of return and freight traffic density. The total of these three amounts will be averaged and this result will be the overall obsolescence percentage for the subject railroad. The following is an example of this computation:

XYZ Railroad

Obsolescence Indicated by Rate of Return Comparison	14.30%
Obsolescence Indicated by Freight Traffic Density Comparison	8.70%
Obsolescence Indicated by Gross Profit Margin Comparison	11.50%

Total 34.50%

Average Obsolescence Percentage

11.50%

The obsolescence percentage will then be applied to the road accounts of the subject railroad, excluding land and personal property, after the allowance for depreciation has been deducted. In no instance shall the allowance for obsolescence exceed 50 percent. The following example illustrates how the cost indicator of value is computed and how the allowance for obsolescence is applied.

XYZ Railroad

Account	Amount
Road	\$24,000,000
Equipment -- Owned and Leased	9,000,000
Construction Work in Progress	4,500,000
General Expenditures	1,823,000
Gross Cost Indicator	39,323,000
Less Depreciation	10,000,000
Net Cost Indicator	\$29,323,000
Road	\$24,000,000
Less Land and Personal Property	1,000,000
Adjusted Road	23,000,000
Adjusted Road	\$23,000,000
Depreciation on Adjusted Road	7,000,000
Net Road	16,000,000
Obsolescence Percent	11.5%
Obsolescence Amount	1,840,000
Adjusted Cost Indicator of Value	\$27,483,000

This cost indicator of value computed in accordance with this part will bear a weighting of 15 percent of the total unit value estimate of the railroad's property, except in the case of bankrupt railroads, or railroads with no income to be capitalized, as provided for in subpart 6, or railroads not meeting the criteria for use of the stock and debt approach to value as specified in subpart 4. These railroads will be valued using a 40 percent weighting for the cost indicator of value.

Subp. 3. Income approach to valuation. The income indicator of value will be calculated by averaging the net railway operating income, as defined by the STB, of the railroad for the most recent five years preceding the assessment. This average income shall be capitalized by applying to it a capitalization rate which will be computed by using the band of investment method. This method will consider:

- A. the capital structure of railroads, including capital surplus and retained earnings;
- B. the cost of debt or interest rate paying particular attention to imbedded debt of railroads;
- C. the yield on preferred stock of railroads; and
- D. the yield on common stock of railroads.

This rate will be calculated each year using the method described in this subpart.

An example of a computation of the capitalized income approach to value is as follows:

XYZ Railroad

Year	Net Railway Operating Income
....	\$ 2,600,000
....	2,700,000
....	3,000,000
....	3,100,000
....	3,492,500
Total	\$14,892,500
Average	\$ 2,978,500

Five-year average Net Railway Operating Income Capitalized at 14.0 percent ($2,978,500 \div 14.0$ percent) equals \$21,275,000.

The income indicator of value computed in accordance with this part shall be weighted 60 percent of the total estimated unit value of the railroad's property except in the case of bankrupt railroads or railroads having no net operating income as provided for in subpart 6.

Subp. 4. Stock and debt approach to valuation. The stock and debt approach to value is the third method which will be used to estimate the unit value of the railroad operating property. This approach to value is based on the accounting principle: assets = liabilities + equity. Therefore, when the value of a company's liabilities (debt) is found and this added to the worth of its stock, a value can be established for its assets (property).

The use of this approach to value will be limited to only those railroads meeting qualifications in items A to C:

- A. The stock of the railroad must be traded on either the New York or American Stock Exchange.
- B. The bonds of the railroad must be traded or have a rating by either Standard and Poor's or Moody's rating services.
- C. If the railroad is part of a diversified company, the value of the railroad portion of the total stock price must be able to be separated on an earnings basis using the following method:

XYZ Railroad

XYZ railroad is wholly owned by ABC Industries Inc.

Net Earnings of ABC Industries	\$5,200,500
Net Earnings of XYZ Railroad	\$2,600,250
Percent of XYZ net earnings to total conglomerate earnings	50%
Value of share of ABC Industries stock	\$100
XYZ Railroad portion of stock value	\$50

If a railroad has no net earnings, and is part of a conglomerate, then the stock and debt indicator of value will not be used.

The value of the stock used in the stock and debt method shall be an average of the month-ending stock prices for the 12 months immediately preceding the assessment date of January 2. The value of the bonds, equipment obligations, and conditional sales contracts, and other long-term debts shall also be an average of the cost of money quotes for the 12 months immediately preceding the assessment date of January 2. The source for these stock and bond prices shall be Standard and Poor's Stock Guide or other applicable financial service.

An illustration of a computation of the stock and debt approach to value is as follows:

XYZ Railroad Company

Shares of Common Stock issued x Average price for preceding year	1,000,000 x \$12 = \$12,000,000
Shares of Preferred Stock x Average price for preceding year	100,000 x \$15 = \$ 1,500,000
Rate and face value of bonds x Average price for class of bonds for preceding year	A rated 8% bonds \$10,000,000 x 99% of par = \$ 9,900,000
Stock and Debt Indicator of Value	\$23,400,000

After the gross stock and debt indicator of value has been computed, an allowance will be made for the effect, if any, of revenue from other than railway operations included in this indicator of value. This allowance shall be based on the ratio of a five-year average of net revenue from railway operations, as determined by the STB, to a similar five-year average of income available for fixed charges as determined by the STB. The five-year average will be the most recent five years preceding the assessment date. An example of this computation is as follows:

XYZ Railroad Company

Year	Net Revenue from Railway Operations	Income Available for Fixed Charges
....	\$ 3,000,000	\$ 3,500,000
....	4,000,000	4,300,000
....	5,200,000	5,700,000
....	6,000,000	6,800,000
....	5,200,000	5,400,000
	\$23,400,000	\$25,700,000
Average	\$ 4,680,000	\$ 5,140,000
Ratio $\$4,680,000 \div \$5,140,000 = 91\%$		
Gross Stock and Debt Indicator of Value		\$23,400,000
Ratio of Operating to Noncarrier Earnings		91%
Net Stock and Debt Indicator of Value		\$21,300,000

The stock and debt indicator of value computed in accordance with this part will bear a weighting of 25 percent of the total unit value of the railroad's property, except in the case of bankrupt railroads, railroads in bankruptcy proceedings, or railroads with no income to be capitalized, as provided for in subpart 6. If no stock and debt indicator of value is computed, the weighting of 25 percent which would have been applied to this indicator of value will be placed on the cost indicator of value.

Subp. 5. Unit value computation. The estimated unit value of the railroad property will be the total of the three weighted indicators of value. The following is an example of the computation of the unit value.

XYZ Railroad

Valuation Approach	Value	Weighting	
Cost indicator of value	\$27,483,000	15%	\$ 4,122,500
Income indicator of value	21,275,000	60%	12,765,000
Stock and debt indicator of value	21,300,000	25%	5,325,000
			Unit Value \$22,212,500

The weighting shown above may vary from railroad to railroad as provided for in subparts 2 to 4.

Subp. 6. Railroads operating at a loss, bankrupt railroads involved in federal bankruptcy proceedings, and railroads adjudged bankrupt by a federal court. Railroads which are involved in federal bankruptcy proceedings, adjudged bankrupt, or railroads having no net railway operating

income will be valued using the cost and stock and debt approaches to value. If the stocks or bonds of such railroads are not traded, or do not meet the other requirements for use of the stock and debt indicator of value, then these railroads will be valued using the cost approach to value only.

Statutory Authority: *MS s 14.388; 270.84; 270C.06*

History: *11 SR 335; L 1998 c 254 art 1 s 107; 28 SR 1297; L 2005 c 151 art 1 s 114*

Posted: *November 14, 2006*

Minnesota Administrative Rules

8106.0500 ALLOCATION.

Subpart 1. **In general.** After the estimated unit value of the railroad property has been determined, the portion of value which is attributable to Minnesota must be established. This is accomplished through the use of certain allocation factors. Each of the factors in the allocation method shows a relationship between the railroad system operations in all states and its Minnesota operations. These relationships are expressed in percentage figures. These percentages are then added and an average is computed. The resulting average of the factors, multiplied by the unit value, yields the Minnesota portion of the railroad property which will, after the adjustments described in parts 8106.0600 and 8106.0800, be subject to ad valorem tax in Minnesota.

Subp. 2. **Allocation factors.** The factors to be considered in making allocations of unit values to Minnesota for railroad companies are:

A. miles of railroad track operated in Minnesota divided by miles of railroad track operated in all states;

B. ton miles of revenue freight transported in Minnesota divided by ton miles of revenue freight transported in all states;

C. gross revenues from transportation operations within Minnesota divided by gross revenues from transportation operations in all states; and

D. cost of road property in Minnesota divided by the cost of road property in all states.

The following example illustrates the allocation method to be applied to the unit value of railroad property.

XYZ Railroad			
Minnesota miles of track	100		
Total miles of track	500	=	20%
Minnesota ton miles of revenue freight	2,200,000		
Total ton miles of revenue freight	9,000,000	=	24%
Minnesota gross transportation revenue	\$10,000,000		
Total gross transportation revenue	\$40,000,000	=	25%
Minnesota cost of road property	2,990,000		
Total cost of road property	13,000,000	=	23%

	Total	92%
	Minnesota Percent of Unit Value	23%
Total Unit Value (\$22,212,500 x 23%) =		
Minnesota Portion of Unit Value	\$5,108,875	

Statutory Authority: *MS s 270.84; 270C.06*

History: *11 SR 335; L 2005 c 151 art 1 s 114*

Posted: *November 14, 2006*

Minnesota Administrative Rules

8106.0600 ADJUSTMENTS FOR NONFORMULA ASSESSED PROPERTY OR EXEMPT PROPERTY.

After the Minnesota portion of the unit value of the railroad company is determined, property which is either exempt from taxation, such as personal property, or classified as nonoperating will be deducted from the Minnesota portion of the unit value to the extent that it has been included in the computation of this value.

Property which has been included in the computation of the unit value but has been defined as nonoperating property will be valued by the local assessor. The Minnesota portion of the unit value will be reduced by the restated cost of this property. Only nonoperating property located within Minnesota will be eligible for this exclusion.

The railroad company shall have the responsibility to submit to the commissioner of revenue, in the form required by the commissioner, such schedules of nonoperating property as the commissioner may require.

In addition to nonoperating property which will be valued and assessed locally, a deduction from the Minnesota portion of the unit value will be made for personal property.

A percentage of the Minnesota portion of the unit value before deducting nonoperating property will be excluded as personal property. This percentage will be computed in the following way:

A. The following STB accounts for property within Minnesota will be totaled:

- (1) that portion of coal and ore wharves determined to be personal property;
- (2) communication systems;
- (3) signals and interlockers;
- (4) roadway machines;
- (5) shop machinery;
- (6) power plant machinery;
- (7) computer and word processing equipment; and
- (8) equipment, allocated to Minnesota on the basis of car and locomotive miles in

Minnesota compared to total system car and locomotive miles.

B. The total of these accounts will then be divided by the total of the Minnesota road, equipment, leased property, general expenditures, construction work in progress, and other elements of investment accounts. The resulting percentage will be used to determine the personal property amount of the Minnesota portion of the unit value. This amount will not be taxable for ad valorem purposes.

C. The following is an illustration of the computation for the personal property exclusion.

XYZ Railway

Personal Property Account

Amount in Minnesota

Computer and Word Processing Equipment		\$ 89,200
Coal and Ore Wharves		100,000
Communication Equipment		100,000
Signals and Interlockers		200,000
Roadway Machines		200,000
Shop Machinery		100,000
Power Plant Machinery		100,000
* Equipment -- Owned and Leased		2,250,000
		3,139,200
* Total Equipment Account	\$9,000,000	
Car and Locomotive Miles in Minnesota	1,000,000	
Total Car and Locomotive Miles	4,000,000	
Ratio of Minnesota to Total	25%	
Minnesota Allocated Equipment Account	\$2,250,000	
Restated Cost Account		Amount in Minnesota
Road		\$2,990,000
Equipment -- Owned and Leased		2,250,000
Construction Work in Progress		800,000
General expenditures		500,000
		\$6,540,000
Minnesota Personal Property Accounts	\$3,139,200	
Minnesota Restated Cost	\$6,540,000	
Ratio of Personal Property to Cost	48%	
Minnesota portion of unit value		5,108,875
Personal Property exclusion at 48%		2,452,260
Taxable Minnesota Portion of Unit Value		\$2,656,615

Statutory Authority: *MS s 14.388; 270.84; 270C.06*

History: *11 SR 335; 28 SR 1297; L 2005 c 151 art 1 s 114*

Posted: *November 14, 2006*

APPENDIX 2

**Survey of Railroad Unitary States
Minnesota Department of Revenue**

State	Utility Methodology			RR Settlnmt?	Market	Op. Lses.	Sig. Wt. to	Cost
	Rule?	Rigid?	Formula?		Appr.?	in Mkt Appr	Mkt Appr	Appr.?
Alabama	Yes	No	No	No	Yes	Adjust for	No	Yes
Arizona (1)	Yes	Yes	Yes	No	No	n/a	n/a	No
Arkansas	Yes	No	No	No	Yes	Adjust for	Yes	Yes
California	Yes	Yes	No	No	No	n/a	n/a	Yes
Colorado	Yes	No	No	No	No	n/a	n/a	Yes
Florida	Yes	No	No	No	Yes	No adjustmt.	No	Yes
Georgia	No	No	No	No	No	n/a	n/a	Yes
Idaho	Yes	No	No	No	Yes	No adjustmt.	No	Yes
Iowa	Yes	Yes	No	Yes	Yes	No adjustmt.	Yes	No
Kansas	Yes	No	No	No	Yes	No adjustmt.	No	Yes
Kentucky	No	No	No	No	Yes	Adjust for	Yes	Yes
Louisiana	No	No	No	No	Yes	No adjustmt.	No	Yes
Maryland	Yes	No	No	No	Yes	Adjust for	No	Yes
Minnesota	Yes	Yes	No	No	Yes	No adjustmt.	Yes	Yes
Missouri	No	No	No	No	Yes	Adjust for	No	Yes
Mississippi	No	No	No	No	Yes	Adjust for	No	Yes
Montana (2)	Yes	Yes	Yes	Yes	No	n/a	n/a	No
Nebraska	Yes	No	No	No	Yes	Adjust for	No	Yes
Nevada	Yes	Yes	No	No	No	n/a	n/a	Yes
New Mexico	No	No	No	No	Yes	Adjust for	No	Yes
North Carolina	No	No	No	No	Yes	Adjust for	No	Yes
North Dakota	No	No	No	No	Yes	Adjust for	No	Yes
Oklahoma	No	No	No	No	Yes	No adjustmt.	No	Yes
Oregon	No	No	No	No	Yes	Adjust for	Yes	Yes
South Carolina	No	No	No	No	Yes	Adjust for	No	Yes
South Dakota	No	No	No	No	Yes	Adjust for	No	Yes
Tennessee	No	No	No	No	Yes	Adjust for	No	Yes
Texas	No	No	No	No	No	n/a	n/a	Yes
Utah	Yes	Yes	No	No	Yes	Adjust for	No	Yes
Washington	Yes	No	No	No	Yes	Adjust for	Yes	Yes
West Virginia	Yes	No	No	No	Yes	Adjust for	No	Yes
Wisconsin	No	No	No	No	Yes	Adjust for	No	Yes
Wyoming	Yes	Yes	No	No	Yes	Adjust for	No	Yes

- (1) Arizona's rule requires the Department to begin with a starting value and each year that starting value is trended up or down depending upon changes to income and assets.
- (2) Montana's statutory formula requires the Department to begin with a settled value and each year that value is trended up or down using 3 factors; earnings (50%), gross margin (25%), and property (25%).

Survey of Railroad Unitary States
 Minnesota Department of Revenue

State	HCLD or RCLD	CWIP in Cost Appr	Oper. Leases in Cost Appr.	Obsol. Adj. to Cost Appr	Wisc. Study or Inc. Shortfall	Income Appr.?	CWIP in Inc. Appr
Alabama	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	Adjust For
Arizona	n/a	n/a	n/a	n/a	n/a	No	n/a
Arkansas	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	No adjustment
California	RCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	Adjust For
Colorado	HCLD	No Adjustment	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	No adjustment
Florida	HCLD	Exempt	Depr. Cost Added	No	n/a	Yes-Direct	Exempt
Georgia	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	No adjustment
Idaho	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Other	Yes-Yield	No adjustment
Iowa	n/a	n/a	n/a	n/a	n/a	Yes-Yield	No adjustment
Kansas	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	No adjustment
Kentucky	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Direct	No adjustment
Louisiana	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	No adjustment
Maryland	HCLD	Exempt	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	Exempt
Minnesota	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	No Adjustment
Missouri	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	Adjust For
Mississippi	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Both	Adjust For
Montana	n/a	n/a	n/a	n/a	n/a	No	n/a
Nebraska	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	Adjust For
Nevada	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Yield	No adjustment
New Mexico	HCLD	50% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	No adjustment
North Carolina	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	No Adjustment
North Dakota	HCLD	75% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Direct	No Adjustment
Oklahoma	HCLD	No Adjustment	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	Adjust For
Oregon	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-DCF	Adjust For
South Carolina	HCLD	Exempt	Depr. Cost Added	No	n/a	Yes-Yield	Exempt
South Dakota	HCLD	No Adjustment	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	No adjustment
Tennessee	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	Adjust For
Texas	HCLD	100% Bk. Cost	Not Included	Yes	Inc. Shortfall	Yes-Yield	Adjust For
Utah	HCLD	Disc. Bk. Cost	Depr. Cost Added	No		Yes-Yield	Adjust For
Washington	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Both	Adjust For
West Virginia	HCLD	100% Bk. Cost	Depr. Cost Added	No	n/a	Yes-Yield	No adjustment
Wisconsin	HCLD	100% Bk. cost	Depr. Cost Added	Yes	Wisc. Study	Yes-Direct	No adjustment
Wyoming	HCLD	100% Bk. Cost	Depr. Cost Added	Yes	Inc. Shortfall	Yes-Yield	Adjust For

**Survey of Railroad Unitary States
Minnesota Department of Revenue**

<u>State</u>	<u>Oper. Leases in Inc. Appr.</u>	<u>Misc. Rent Adj. to Inc. Appr.</u>	<u>Correlation</u>	<u>Zero Wtg. to any indicator</u>	<u>Allocation</u>
Alabama	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
Arizona	n/a	n/a	n/a	n/a	Multi-factor
Arkansas	Adjust For	Adjust for	Prescribed Wt.	Yes	Multi-factor
California	Adjust For	Adjust for	Prescribed Wt.	Yes	Multi-factor
Colorado	No adjustment	No adjustment	Appr. Judgemt	No	Multi-factor
Florida	No adjustment	No adjustment	Appr. Judgemt	No	Multi-factor
Georgia	Adjust For	Adjust for	Prescribed Wt.	No	One-factor
Idaho	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
Iowa	No adjustment	Adjust for	Prescribed Wt.	Yes	Multi-factor
Kansas	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Kentucky	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
Louisiana	No adjustment	No adjustment	Appr. Judgemt	Yes	Multi-factor
Maryland	Adjust For	No adjustment	Appr. Judgemt	No	Multi-factor
Minnesota	No Adjustment	No adjustment	Prescribed Wt.	Yes	Multi-factor
Missouri	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Mississippi	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
Montana	n/a	n/a	n/a	n/a	Multi-factor
Nebraska	Adjust For	Adjust for	Appr. Judgemt	No	Multi-factor
Nevada	Adjust For	Adjust for	Appr. Judgemt	No	Multi-factor
New Mexico	Adjust For	No adjustment	Appr. Judgemt	No	Multi-factor
North Carolina	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
North Dakota	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Oklahoma	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
Oregon	Adjust For	No adjustment	Appr. Judgemt	Yes	Multi-factor
South Carolina	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
South Dakota	Adjust For	No adjustment	Appr. Judgemi	Yes	Multi-factor
Tennessee	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Texas	No Adjustment	No adjustment	Appr. Judgemt	No	Multi-factor
Utah	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Washington	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
West Virginia	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor
Wisconsin	Adjust For	Adjust for	Appr. Judgemt	Yes	Statutorial
Wyoming	Adjust For	Adjust for	Appr. Judgemt	Yes	Multi-factor

APPENDIX 3

VIKING RAILROAD
2XXX Assessment
Final Estimate of System Value

Historical Cost Less Depreciation Indicator of Value	\$ 34,493,642,000
Direct Capitalization Indicator of Value	\$ 28,295,830,000
No-Growth Yield Capitalization Indicator of Value	\$ 21,469,087,000
Discounted Cash Flow Indicator of Value	\$ 33,982,000,000
Stock and Debt Indicator of Value	\$ 32,436,911,759

FINAL ESTIMATE OF SYSTEM VALUE **\$ 29,000,000,000**

Minnesota Allocation Percentage **3.9115%**

Minnesota Allocated System Value **\$ 1,134,335,000**

Calculation of Minnesota Exempt or Nonformula Assessed Property

System Value (000,000) \$ 29,000

System Cost (000,000)

Railway Prop. \$ 41,383

CWIP \$ 522

M&S \$ 288

Oper. Leases \$ 6,453

Total System Cost \$ 48,646

System Value / System Cost Ratio 0.5961

Cost of Minnesota Exempt or Nonformula Property \$ 285,987,354

Multiply by System Value / System Cost Ratio 0.5961

Deduct Value of Minnesota Exempt or Nonformula Assessed Property **(170,489,522)**

MINNESOTA TAXABLE VALUE **963,845,478**

**Viking Railroad - State of Minnesota - 2XXX Assessment
Historical Cost Less Depreciation Indicator of Value**

Investment in Railway Property (Form R-1)	\$ 41,382,895,000
Less: Accumulated Depreciation (Form R-1)	<u>\$ (11,277,261,000)</u>
Net Property, Plant & Equipment in Service	\$ 30,105,634,000
Construction Work in Progress (Form R-1)	\$ 521,685,000
Material & Supplies (Form R-1)	\$ 287,965,000
Cost of Equipment Under Operating Leases (Lease Summary)	\$ 6,452,987,000
Less: Accumulated Depr. Operating Leases (Lease Summary)	<u>\$ (2,874,629,000)</u>
Net Equipment Under Operating Leases	<u>\$ 3,578,358,000</u>
HISTORICAL COST LESS DEPRECIATION INDICATOR OF VALUE	<u>\$ 34,493,642,000</u>

Source: Viking RR Form R-1 for year ending 12/31/2XXX, and Viking RR Annual Report to the Minnesota Department of Revenue

**Viking Railroad - State of Minnesota - 2XXX
Development of Weighted Average Cost of Capital and Direct Capitalization Rate**

Cost of Equity

Capital Asset Pricing Model:

Risk Free Rate + (Market Risk Premium)Beta

Historical (Ex Post Basis)
4.88% + (7.10%)*0.95 = **11.63%**

Ibbotson Supply Side
4.88% + (6.30%)*0.95 = **10.87%**

Discounted Cash Flow (Dividend Growth) Model:

Dividend Yield + Growth
1.33% + 11.70% = **13.03%**

Selected Cost of Equity **11.75%**

Cost of Debt

Selected Industry Bond Rating - Baa

Selected Debt Rate **6.22%**

Calculation of Weighted Average Cost of Capital

<u>Capital</u>	<u>Percentage</u>	<u>Cost</u>	<u>Composite</u>
Equity	75%	11.75%	8.81%
Debt	25%	6.22%	<u>1.56%</u>
Weighted Average Cost of Capital			<u>10.37%</u>

Calculation of After-Tax Weighted Average Cost of Capital

<u>Capital</u>	<u>Percentage</u>	<u>Cost</u>	<u>Composite</u>
Equity	75%	11.75%	8.81%
Debt	25%	6.22%(1-.367)	<u>0.98%</u>
Weighted Average Cost of Capital			<u>9.79%</u>

Calculation of Direct Capitalization Rate

<u>Capital</u>	<u>Percentage</u>	<u>Rate</u>	<u>Composite</u>
Equity	75%	7.83%	5.87%
Debt	25%	6.50%	<u>1.63%</u>
Direct Capitalization Rate			<u>7.50%</u>

**Viking Railroad - State of Minnesota - 2XXX Assessment
Direct Capitalization Indicator of Value**

<u>Year</u>	<u>NROI</u>	<u>Misc Rental Inc.</u>	<u>Adjusted NROI</u>
2XXX-5	\$ 1,285,987,000	\$ 36,875,000	\$ 1,322,862,000
2XXX-4	\$ 1,453,297,000	\$ 39,274,000	\$ 1,492,571,000
2XXX-3	\$ 1,501,932,000	\$ 57,821,000	\$ 1,559,753,000
2XXX-2	\$ 1,685,314,000	\$ 66,893,000	\$ 1,752,207,000
2XXX-1	\$ 1,865,983,000	\$ 61,832,000	\$ 1,927,815,000
Average			\$ 1,611,041,600
Wtd. Average			\$ 1,709,011,067
Current Year NROI			\$ 1,927,815,000
4 Year Average Growth (11.43%)			\$ 2,148,164,255
Selected NROI Estimate (Bef. CWIP Adj.)			\$ 1,850,000,000
Add: Expansionary CWIP Adjustment (1)			\$ 19,500,000
NROI Estimate			\$ 1,869,500,000

Direct Capitalization Calculation

NROI Estimate / Direct Capitalization Rate

\$ 1,869,500,000 / 7.50% =	\$ 24,926,666,000
Add: Lessor's Interest in Operating Lease Property	\$ 3,369,164,000

Direct Capitalization Indicator of Value **\$ 28,295,830,000**

(1) Expansionary CWIP	\$ 260,000,000
Direct Capitalization Rate	<u>7.50%</u>
Increment to Add to NROI Estimate	\$ 19,500,000

Viking Railroad - State of Minnesota - 2XXX Assessment
No-Growth Yield Capitalization Indicator of Value

<u>Year</u>	<u>NROI</u>	<u>Misc Rental Inc.</u>	<u>Adjusted NROI</u>
2XXX-5	\$ 1,285,987,000	\$ 36,875,000	\$ 1,322,862,000
2XXX-4	\$ 1,453,297,000	\$ 39,274,000	\$ 1,492,571,000
2XXX-3	\$ 1,501,932,000	\$ 57,821,000	\$ 1,559,753,000
2XXX-2	\$ 1,685,314,000	\$ 66,893,000	\$ 1,752,207,000
2XXX-1	\$ 1,865,983,000	\$ 61,832,000	\$ 1,927,815,000
Average			\$ 1,611,041,600
Wtd. Average			\$ 1,709,011,067
Current Year NROI			\$ 1,927,815,000
4 Year Average Growth (11.43%)			\$ 2,148,164,255
Selected NROI Estimate (Bef. CWIP Adj.)			\$ 1,850,000,000
Add: Expansionary CWIP Adjustment (1)			\$ 26,962,000
NROI Estimate			\$ 1,876,962,000

No-Growth Yield Capitalization Calculation

NROI Estimate / Yield Capitalization Rate

	\$ 1,876,962,000 / 10.37% =	\$ 18,099,923,000
Add: Lessor's Interest in Operating Lease Property		<u>\$ 3,369,164,000</u>
No-Growth Capitalization Indicator of Value		\$ 21,469,087,000

(1) Expansionary CWIP	\$ 260,000,000
Yield Capitalization Rate	<u>10.37%</u>
Increment to Add to NROI Estimate	\$ 26,962,000

Viking Railroad - State of Minnesota - 2XXX Assessment

Discounted Cash Flow Valuation (millions)

	2XXX	2XXX+1	2XXX+2	2XXX+3	2XXX+4	2XXX+5	2XXX+6	Term. Value
Operating Revenues	\$ 16,965	\$ 17,687	\$ 18,920	\$ 20,065	\$ 20,985	\$ 21,815	\$ 23,565	
Operating Expenses	\$ (14,253)	\$ (14,745)	\$ (15,421)	\$ (16,033)	\$ (16,557)	\$ (17,084)	\$ (17,867)	
Operating Income	\$ 2,712	\$ 2,942	\$ 3,499	\$ 4,032	\$ 4,428	\$ 4,731	\$ 5,698	
Interest Expense	\$ (454)	\$ (443)	\$ (443)	\$ (443)	\$ (443)	\$ (443)	\$ (443)	
Taxable Income	\$ 2,248	\$ 2,499	\$ 3,056	\$ 3,589	\$ 3,985	\$ 4,288	\$ 5,255	
Income Tax	\$ (843)	\$ (937)	\$ (1,146)	\$ (1,346)	\$ (1,494)	\$ (1,608)	\$ (1,971)	
Net Income	\$ 1,405	\$ 1,562	\$ 1,910	\$ 2,243	\$ 2,491	\$ 2,680	\$ 3,284	
NP0I (add-back interest)	\$ 1,869	\$ 2,005	\$ 2,353	\$ 2,686	\$ 2,934	\$ 3,123	\$ 3,727	
+ Depreciation	\$ 2,400	\$ 2,500	\$ 2,600	\$ 2,700	\$ 2,800	\$ 2,900	\$ 3,000	
- Capital Expenditures	\$ (3,200)	\$ (3,400)	\$ (3,425)	\$ (3,425)	\$ (3,150)	\$ (3,100)	\$ (3,050)	
- Increase in W. C.	\$ (30)	\$ (30)	\$ (30)	\$ (30)	\$ (30)	\$ (30)	\$ (30)	
Net Cash Flow	\$ 1,039	\$ 1,075	\$ 1,498	\$ 1,931	\$ 2,554	\$ 2,893	\$ 3,647	
P.V. Factor (10.37%)	0.9519	0.8624	0.7814	0.7080	0.6415	0.5812	0.5266	
Present Worth	\$ 989	\$ 927	\$ 1,171	\$ 1,367	\$ 1,638	\$ 1,691	\$ 1,921	\$ 41,737
DCF VALUE	\$ 30,613							0.5012
+ Oper. Lease Value	\$ 3,369							20,919
TOTAL DCF VALUE	\$ 33,982							

Assumptions: (1) Operating revenues, operating expenses, income tax rate, and interest expense from Viking Long Range Plan;

(2) Income taxes are 37.5% (combined federal and state);

(3) Capital expenditures from Viking Long Range Plan;

(4) Terminal value calculated by taking 2XXX+6 net cash flow and growing by terminal growth rate then dividing it by the discount rate minus terminal growth rate;

(5) Terminal growth rate will be 1.5%;

(6) Discount rate will be 10.37%;

(7) Increase in working capital assumed to be normalized;

Viking Railroad - State of Minnesota - 2XXX Assessment

Op. Lease

Discounted Cash Flow Valuation of Lessor's Interest in Operating Leased Property (000)

	2XXX	2XXX+1	2XXX+2	2XXX+3	2XXX+4	2XXX+5	2XXX+6	2XXX+7	2XXX+8	2XXX+9
Lease Payments	\$ 524,987	\$ 453,163	\$ 404,872	\$ 348,921	\$ 299,875	\$ 275,147	\$ 269,873	\$ 243,819	\$ 211,352	\$ 185,146
Depreciation	<u>\$ (277,485)</u>	<u>\$ (231,985)</u>	<u>\$ (210,845)</u>	<u>\$ (180,358)</u>	<u>\$ (163,338)</u>	<u>\$ (150,829)</u>	<u>\$ (149,225)</u>	<u>\$ (141,335)</u>	<u>\$ (125,446)</u>	<u>\$ (110,082)</u>
Taxable Lease Pmts.	\$ 247,502	\$ 221,178	\$ 194,027	\$ 168,563	\$ 136,537	\$ 124,318	\$ 120,648	\$ 102,484	\$ 85,906	\$ 75,064
Income Taxes @ 36.7%	<u>(90,833)</u>	<u>(81,172)</u>	<u>(71,208)</u>	<u>(61,863)</u>	<u>(50,109)</u>	<u>(45,625)</u>	<u>(44,278)</u>	<u>(37,612)</u>	<u>(31,528)</u>	<u>(27,548)</u>
Net Lease Payments	\$ 434,154	\$ 371,991	\$ 333,664	\$ 287,058	\$ 249,766	\$ 229,522	\$ 225,595	\$ 206,207	\$ 179,824	\$ 157,598
Residual	<u>\$ 365,498</u>	<u>\$ 328,632</u>	<u>\$ 221,756</u>	<u>\$ 87,147</u>	<u>\$ 155,491</u>	<u>\$ 15,874</u>	<u>\$ 51,843</u>	<u>\$ 112,873</u>	<u>\$ 94,876</u>	<u>\$ 49,876</u>
Lease Prop. Net C.F.	\$ 799,652	\$ 700,623	\$ 555,420	\$ 374,205	\$ 405,257	\$ 245,396	\$ 277,438	\$ 319,080	\$ 274,700	\$ 207,474
P.V. Factor @ 9.79%	0.9544	0.8693	0.7918	0.7212	0.6569	0.5983	0.5449	0.4963	0.4521	0.4118
Present Value	\$ 763,188	\$ 609,051	\$ 439,782	\$ 269,877	\$ 266,213	\$ 146,821	\$ 151,176	\$ 158,360	\$ 124,192	\$ 85,438
DCF Valuation (000)	<u>\$ 3,369,164</u>									

Assumptions: (1) Lease Payments and Depreciation per Viking Lease Schedule from annual report to the Minnesota Dept. of Revenue

- (2) Residual value assumed to be the depreciated lessor's cost at the end of the lease period (per Viking Lease Schedule)
- (3) Income Tax rate assumed to be 36.7% (Viking effective tax rate from 12/31/2XXX R-1)
- (4) Discount Rate is 9.79%, after-tax weighted average cost of capital;
- (5) Net Lease Payments are Lease Payments minus Income Taxes

Op. Lease

2XXX+10	2XXX+11	2XXX+12	2XXX+13	2XXX+14	2XXX+15	2XXX+16	2XXX+17	2XXX+18	2XXX+19	2XXX+20	2XXX+21
\$ 162,382	\$ 140,085	\$ 131,566	\$ 128,914	\$ 111,853	\$ 104,873	\$ 100,291	\$ 98,573	\$ 96,112	\$ 95,117	\$ 94,873	\$ 77,887
\$ (101,853)	\$ (96,875)	\$ (92,793)	\$ (89,774)	\$ (80,187)	\$ (72,963)	\$ (70,853)	\$ (69,743)	\$ (74,321)	\$ (73,195)	\$ (64,889)	\$ (47,853)
\$ 60,529	\$ 43,210	\$ 38,763	\$ 39,140	\$ 31,666	\$ 31,910	\$ 29,438	\$ 28,830	\$ 21,791	\$ 21,922	\$ 29,984	\$ 30,034
(22,214)	(15,858)	(14,226)	(14,364)	(11,621)	(11,771)	(10,804)	(10,581)	(7,997)	(8,045)	(11,004)	(11,022)
\$ 140,168	\$ 124,227	\$ 117,330	\$ 114,550	\$ 100,232	\$ 93,162	\$ 89,487	\$ 87,992	\$ 88,115	\$ 87,072	\$ 83,869	\$ 66,865
\$ 16,279	\$ 44,523	\$ 32,875	\$ 8,750	\$ 9,863	\$ -	\$ -	\$ 4,563	\$ 11,456	\$ 7,423	\$ 8,756	\$ 5,698
\$ 156,447	\$ 168,750	\$ 150,205	\$ 123,300	\$ 110,095	\$ 93,162	\$ 89,487	\$ 92,555	\$ 99,571	\$ 94,495	\$ 92,625	\$ 72,563
0.3751	0.3416	0.3111	0.2834	0.2581	0.2351	0.2141	0.1951	0.1777	0.1618	0.1474	0.1342
\$ 58,683	\$ 57,645	\$ 46,729	\$ 34,943	\$ 28,415	\$ 21,902	\$ 19,159	\$ 18,058	\$ 17,694	\$ 15,289	\$ 13,653	\$ 9,738

Op. Lease

	2XXX+22	2XXX+23
\$	38,479	\$ 5,018
\$	<u>(28,743)</u>	\$ <u>(1,853)</u>
\$	9,736	\$ 3,165
\$	<u>(3,573)</u>	\$ <u>(1,162)</u>
\$	34,906	\$ 3,856
\$	<u>42,985</u>	\$ <u>28,750</u>
\$	77,891	\$ 32,606
	0.1223	0.1114
\$	9,526	\$ 3,632

**Viking Railroad - State of Minnesota - 2XXX Assessment
Stock and Debt Indicator of Value**

Equity Value of Viking Railroad		\$ 23,772,866,122
Market Value of Parent Long Term Debt (See Parent Corp. Shareholder Report)	\$ 5,182,695,000	
Multiply by Viking %	<u>97.4%</u>	
Estimated Market Value of Parent Debt Attributable to Railroad Operations		\$ 5,047,944,930
Market Value of Viking Railroad Debt (Annual Report to MDOR)		\$ 2,018,963,000
Add: Current Liabilities - Net of Current Debt (Form R-1)		\$ 2,210,345,000
Less: Current Assets - Excl. M&S (Form R-1)		\$ <u>(1,875,991,000)</u>
Total Stock & Debt Value Indicator Before Non-Operating Property %		\$ 31,174,128,052
Operating Property Percentage - from below		<u>93.2%</u>
Stock & Debt Value Before Operating Leases		\$ <u>29,067,747,759</u>
Value of Lessor's Interest in Operating Leased Property		\$ <u>3,369,164,000</u>
STOCK & DEBT INDICATOR OF VALUE - Viking Railroad		\$ <u>32,436,911,759</u>

Allocation of Operating Property

Net Railroad Oper. Inc. Bef. Int. & Taxes	\$ 2,698,453,000	(Form R-1)
Total Earnings Bef. Int. & Taxes	\$ <u>2,898,779,000</u>	(Form R-1)
Percent of Inc. Attributable to Railroad	<u>93.1%</u>	
NBV of Operating Assets, incl. M & S	\$ 30,915,184,000	(Form R-1)
Total Assets Less Cur. Assets (ex. M&S)	\$ <u>33,100,811,000</u>	(Form R-1)
Percent of Assets Attributable to Railroad	<u>93.4%</u>	
Selected Operating Property Percentage	<u>93.2%</u>	

**Viking Railroad - State of Minnesota - 2XXX Assessment
Calculation of Viking Railroad Equity Value**

Calculation of Percent of Parent Corp. Attributable to Viking

Parent Corporation - Equity Value

282,456,132 shares @ \$86.39 per share (4th qt. 2XXX-1 wtd. ave.) \$ 24,401,385,243

2XXX-1 Revenues

Viking (Form R-1) \$ 14,976,452,000

Parent (Shareholder's Report) \$ 15,187,659,000

Viking % **98.6%**

2XXX-1 Operating Income

Viking (Form R-1) \$ 2,698,598,000

Parent (Shareholders Report) \$ 2,732,897,000

Viking % **98.7%**

Net Plant 12/31/2XXX-1

Viking (Form R-1) \$ 30,627,319,000

Parent (Shareholders Report) \$ 31,675,299,000

Viking % **96.7%**

Total Assets 12/31/2XXX-1

Viking (Form R-1) \$ 34,976,802,000

Parent(Shareholders Report) \$ 36,567,032,000

Viking % **95.7%**

Selected Percent of Parent Attributable to Viking 97.4%

SELECTED EQUITY VALUE OF VIKING RAILROAD \$ 23,772,866,122

APPENDIX 4

PROFESSIONAL QUALIFICATIONS

D. BRENT EYRE
5198 S. Persille Dr.
Taylorsville, Utah 84118
801-966-5453 dbeyre@hotmail.com

Education:

Bachelor's of Science Degree in Accounting from Brigham Young University - 1973,
Courses included: Accounting Theory & Practice, Auditing, Business Taxes, Financial
Theory, Economics, Business Law, Marketing, Statistics, etc.

Employment History:

Employed by the Utah State Tax Commission 1973 - 2000.

Positions Held: Field Auditor (1973-77), Supervising Auditor (1977-79), Information
Analyst (1979-84), Assistant Director - Operations Division (1984-87).

Last Position (1987 - Dec. 2000): Assistant Director - Property Tax Division,
responsible for the appraisal of all centrally assessed companies in the State of Utah.
Managed a staff of 16 professional appraiser/analysts.

Current Position (Dec. 2000 - Present): Self-Employed Appraiser & Consultant

Professional Licenses and Designations:

Accredited Senior Appraiser (ASA), American Society of Appraisers, Dual Designation –
Machinery & Tech. Specialties (Public Utilities), Appraisal Review & Management

Certified General Appraiser, Utah State Division of Real Estate, #5465286-CG00
State of Washington, #1101638

Professional Affiliations:

Member, Committee on Centrally Assessed Property - Western States Association of
Tax Administrators (WSATA) 1987 - 2000

Vice-Chairman, Committee on Centrally Assessed Property - Western States
Association of Tax Administrators (WSATA) 1994 - 96

Chairman, Committee on Centrally Assessed Property – WSATA, 1996

Member, National Conference on Unit Valuation Standards (NCUVS) 1987 - 2000

Member, International Association of Assessing Officers (IAAO) 1987 - 2005

Chairman, WSATA Education Committee, 1994-2000

Member, NCUVS Administrative Committee, 1987 - 2000

Member, Multi-State Tax Commission Joint Property Tax Audit Comm., 1995 – 2000

Professional Affiliations, Con't

Member, Planning Committee for the Wichita Workshop, 1995 – 2001
Member, American Society of Appraisers, 1996 - Present
Member, Editorial Board for IAAO Assessment Journal, 1997 – 2005
Member, Review Committee – Utah Appraiser & Certification Board, 2009 - Present

Awards Earned

Utah Chapter - International Association of Assessing Officers: Outstanding Assessment Specialist for 1999

Appraisal Courses Completed:

International Association of Assessing Officers - 1988, Salt Lake City, Utah, Course 1, 2, & 4

WSATA School on the Appraisal of Utilities and Railroads - 1990, 1992, 1993, Logan, Utah

Wichita Workshop, Appraisal of Public Utilities & Railroad Property for Ad Valorem Taxation - 1987, 1988, 1989, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2005, 2009, 2011 Wichita, Kansas

Lincoln Institute of Land Policy - 1987, Cambridge, Massachusetts, "The Effects of the Tax Reform Act on the Appraisal of Utilities & Railroads", 1989, Scottsdale, Arizona, "The Use of Expert Systems in the Valuation of Utilities & Railroads", 1990, Scottsdale, Arizona, "The Appraisal of Utilities & Railroads - Money Market Symposium", 1991, Scottsdale, Arizona, "The Hows & Whys of Utility & Railroad Appraisal", 1999, Cambridge, Ma., "Impacts of Electric Dereg. On Property Tax Valuation"

American Bar Association / Institute of Property Taxation - Annual Property Tax Seminar - 1993, Salt Lake City, Utah

Appraisal Courses Taught:

WSATA School on the Appraisal of Utilities and Railroads Logan UT - 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002 "Basic Course on the Appraisal of Utilities and Railroads", 2003, 2005, 2006, 2010, 2011 "Special Topics Workshop"

Utah State Tax Commission - Property Tax Division - 1991, Salt Lake City, Cedar City, and Price, Utah "Course on Centrally Assessed Property Valuation for County Officials"

Utah State Tax Commission - Property Tax Division - 1992, Price, Utah "Course on Oil & Gas Property Valuation for County Officials"

Appraisal Courses Taught, Con't:

Utah State Tax Commission - Property Tax Division - 1993, Salt Lake City, "Course on Centrally Assessed Property Valuation for State Tax Commissioners"

Idaho State Tax Commission - Appraisal School - 1995, Boise, Idaho, "Public Utilities, Railroads & Unitary Appraisal", 2003, Boise, Idaho, "Unitary Appraisal Issues"

Idaho State Tax Commission - Assessors Summer Workshop - 1999, Boise, Idaho, "The Valuation & Taxation of Intangible Property", 2001, Boise, Idaho, "Discounted Cash Flow Valuation"

Nevada Department of Revenue – Property Tax Division – 2001, Carson City, Nevada, "The Appraisal of Utilities & Railroads"; 2007, Carson City, "Unitary Appraisal Principles"

Texas Comptroller of Public Accounts – Property Tax Division – 2001, Austin, Texas, "The Appraisal of Utilities & Railroads"

Minnesota Department of Revenue – Property Tax Division – 2007, 2010, 2011, St. Paul, MN, "The Unitary Appraisal of Public Utilities"

Presentations Made:

Western States Association of Tax Administrators - 1989, Juneau, AK "Railroad Litigation -or- How Do You Spell Relief?", 1995, Austin, TX "The Changing Regulatory Environment - Does It Affect Valuation Practices?", 1996, Park City, UT "Intangibles - A States Perspective", 2007, Santa Fe, NM "WSATA Manual Rewrite"

WSATA Committee on Centrally Assessed Property - 1989, Port Hadlock, WA, "Railroad Litigation -or- How Do You Spell Relief?", 1992, Monterey, CA, "Construction Work In Progress - Is It Worth The Investment?", 1993, Hood River, OR, "Determining the Proper Comparables for the Calculation of Equity Rates", 1995, Santa Fe, NM, "AICPA Recommendations for Enhanced Financial Reporting", 1996, White Fish, MT, "Intangibles - A States Perspective", 1997, Stevenson, WA, "An Overview of the Wiltel Case in Utah", 1998, Boise, ID, "The Intangible Saga - A Utah Experience"

Wichita Workshop, Appraisal of Public Utilities & Railroads for Ad Valorem Taxation – Wichita KS - 1990, "Hot Issues in Appraisal - What Constitutes the Unit?, Do Capitalized Earnings Capture Intangible Value?, Does Book Value Have Any Role in Appraisal?, Deferred Federal Income Taxes, Correlation", 1991, "Is There a Tangible Way to Identify and Value Intangible Assets?", "Mock Trial Presentation -Issue-Deferred Federal Income Taxes in the Cost Approach", "The Role of the State Administrator in the Property Tax Appeal Process", 1993, "Resolving Myths Concerning the Stock & Debt Approach - It Is Meaningful", "Standards of Appraisal Practice - The WSATA Experience", 1994 "The Proposed IAAO Public

Presentations Made, Con't

Utility Standard - A Critique", 1995 "Public Utility Standards - Controversial Issues", 1996 "Valuation in the New Age - Crossfire Panel", "Mock Trial Presentation - Issue- The Validity of Adjusting Discount Rates for Property Specific Risk Characteristics", 1997 "Unit Valuation: Surviving the Changing Environment - Crossfire Panel", "Alternative Dispute Resolution - Mock Mediation Presentation", 1998 "A Review Centrally Assessed Property Practices in Utah - Panel Discussion", 1999 Moderator "The Income Approach and Intangible Property Exemptions - Are They Compatible?", 2009 "The WSATA Manual Rewrite"

Rocky Mountain Tax Institute - 1992, Salt Lake City, UT "Taxation of Natural Resources: Oil & Gas Production", 1995, Salt Lake City, UT "Update on Property Taxation in Utah"

Lorman Business Institute - State Taxation Seminar - 1993, Salt Lake City, UT, "Taxation of Centrally Assessed Property in Utah", 1998, Salt Lake City, UT, "Utah Property Tax: An Overview and Update", 1999, Salt Lake City, UT, "Centrally Assessed Property in Utah - An Overview", 2000, Salt Lake City, UT, "Centrally Assessed Property in Utah - An Overview", 2002, Salt Lake City, UT, "Special Valuation Issues", 2003, Salt Lake City, UT, "Property Tax in Utah"

Utah Tax Executives Conference - 1993, Salt Lake City, UT, "Taxation of Centrally Assessed Property in Utah"

Utah Association of Counties - Newly Elected Officials Workshop - 1995, Ogden, UT, "Taxation of Centrally Assessed Property in UT"

IAAO Public Utility Council Seminar - 1995, New Orleans, LA, "Resolving the Myths With the Stock & Debt Approach", 1997, Nashville, TN, "Intangibles - How Do We Properly Apply Their Influences Relative to Value", 2001, Reno, NV, "Intangible Litigation & Legislation - A Utah Perspective", 2002, New Orleans, LA, "The Effects of Deregulation on Electric Utilities - An Appraiser's Perspective"

Property Tax Division - Assessors School - 1995, Salt Lake City, UT, "The Effects of Regulation on Value", 1996, Salt Lake City, UT, "The Valuation of Intangible Property - Utah's Perspective"

Center for Business Intelligence - Managing Taxation - 1998, Scottsdale, AZ., "Valuation of Intangible Property - The Utah Experience," Electric Asset Valuation, 1999, Orlando, FL., "Intangible Property Valuation - State Government Perspective"

Kentucky Utility Tax Task Force - 1999, Frankfort, KY, "The Intangible Property Saga - Utah's Experience"

Presentations Made, Con't

Western Counties Centrally Assessed Taxation Seminar - 1999, Salt Lake City, UT.,
"Unitary Valuation Methodologies"

Utah Assessors Summer Workshop - 1999, Sundance, UT, "The Assessment of
Telecom Cos."

Lincoln Institute of Land Policy - 1999, Cambridge, MA, "The Application of the Cost
Approach to Electric Power Generating Plants - A Critique"

National Conference of State Tax Judges – 2002, Salt Lake City, UT, "The Effects of
Deregulation on Electric Utilities – An Appraiser's Perspective"

Texas A&M Real Estate Center – 20th Legal Seminar on Ad Valorem Taxation – 2006,
San Antonio, TX, "FASB 141 – Appraiser Ethical Concerns"

Testimony Given Before the Utah State Tax Commission

Kennecott Copper v. Property Tax Division, 1988, 2002, 2003, 2009

Mountain States Tel. & Tel. v. Property Tax Division, 1988

ANR Production Co. v. Property Tax Division, 1989

A.T.& T. v. Property Tax Division, 1990

MCI v. Property Tax Division, 1991-92

Union Pacific Railroad v. Property Tax Division, 1990, 1991-94

Barrick Mercur Gold Mines v. Property Tax Division, 1992

Andalex Resources Inc., et. al. v. Property Tax Division, 1992

Questar Pipeline Co. v. Property Tax Division, 1988-93

Mountain Fuel Supply Co. v. Property Tax Division, 1989-93

AMOCO Rocmount Inc. v. Property Tax Division, 1993

Northwest Pipeline Co. v. Property Tax Division, 1993

Union Pacific Resources Co. v. Property Tax Division, 1993

Deferred Federal Income Taxes - Pre-Rule Making Hearing, 1994

Southern Utah Fuel Co. v. Property Tax Division, 1994

Soldier Creek Coal Co. v. Property Tax Division, 1994

Salt Lake Southern Railway v. Property Tax Division, 1994

Airline Value Apportionment - Rule Making Hearing, 1994, 1995

Salt Lake City & Salt Lake School Dist. v. Property Tax Division, 1994, 1995

Williams Telecommunications v. Property Tax Division, 1995

Utah Railway v. Property Tax Division, 1995-96

Colorado Interstate Gas Co. v. Property Tax Division, 1996-99

Delta Airlines v. Property Tax Division, 1992, 1996-99

Northwest Airlines v. Property Tax Division, 1997

Questar Gas Management v. Property Tax Division, 1997

Testimony Given Before the Utah State Tax Commission, Con't

Canyon Fuel v. Property Tax Division, 1997
Skyline Telecom v. Property Tax Division, 1997
Emery County Telephone Association v. Property Tax Division, 1997
Centrally Assessed Valuation Rule - Public Hearing, 1998, 1999
Kern River Gas Transmission Co. v. Property Tax Division, 1996, 1999
PacifiCorp v. Property Tax Division, 1992, 1997, 1999, 2006
Alliant Techsystems, Inc. v. Salt Lake County, 1995-1996, 1997-1999
Intermountain Power Agency v. Property Tax Division, 1999, 2001
Verizon Wireless v. Property Tax Division, 2005
Amoco Rocmount v. Property Tax Division, 1993
Deseret Generation & Transmission v. Uintah County, 2004, 2005
Airline Allocation Public Hearing, 2007
Cingular Wireless v. Property Tax Division, 2006
Southwest Airlines v. Property Tax Division, 2006
Qwest Corporation v. Property Tax Division, 2008
Utah Association of Counties v. Property Tax Division; re: UPRR, 2007
Huish Distributing v. Salt Lake County, 2009

Testimony Given Before Oklahoma District Court

GPM Gas Corporation v. Blaine County, Oklahoma, 1998, 1999
Transok Gas Gathering v. Custer, Roger Mills, and Beckham County, Oklahoma, 2000
Shamrock Pipeline, et. al. v. Oklahoma State Board of Equalization, 2003
Southwestern Bell Telephone Co. v. Oklahoma Board of Equalization, 2004, 2005, 2010

Testimony Given Before Montana State Board of Tax Appeals

ASARCO v. Montana Dept. of Revenue, 1999
PPL – Montana v. Montana Dept. of Revenue, 2000, 2001, 2002
Plum Creek Timber, Inc. v. Montana Dept. of Revenue, 2003
PacifiCorp v. Montana Dept. of Revenue, 2005, 2006, 2007
NorthWestern Corp. v. Montana Dept. of Revenue, 2005
Qwest Corp. v. Montana Dept. of Revenue, 2006, 2007, 2008
Columbia Falls Aluminum v. Montana Dept. of Revenue, 2006
Puget Sound Energy v. Montana Dept. of Revenue, 2005, 2006, 2007

Testimony Given Before Arkansas Public Service Commission

In the Matter of an Objection to the 2002 Assessment for Pine Bluff Energy, LLC
In the Matter of an Objection to the 2007 Assessment for Trans-Union Pipeline, LP
In the Matter of an Objection to the 2007 & 2008 Assessment for Comcast
In the Matter of an Objection to the 2007 & 2008 Assessment for Kaneb Pipeline, OP
In the Matter of an Objection to the 2006 – 2009 Assessments for Charter Comm.

Testimony Given Before Idaho District Court

Amalgamated Sugar, LLC v. Canyon County, Idaho, 2002
Qwest Corporation v. Idaho State Tax Commission, 2001, 2002, 2003
PacifiCorp v. Idaho State Tax Commission, 2008

Testimony Given Before New Mexico Taxation & Revenue Hearing Officer
Navajo Refining Co. v. Property Tax Division, 2004

Testimony Given Before New Mexico District Court
Navajo Refining Co. v. Property Tax Division, 2005, 2006, 2007
Holly Energy Pipeline LLC v. Property Tax Division, 2006, 2007

Testimony Given Before Kenai, Alaska Borough Assembly
Tesoro – Alaska v. Kenai Peninsula Borough, 2005

Testimony Given Before Alaska Superior Court
Trans Alaska Pipeline Co., et. al., v. Alaska Dept. of Revenue, 2006
Trans Alaska Pipeline Co., et. al., v. Alaska Dept. of Revenue, 2007-2009

Testimony Given Before Alaska State Appeals Review Board
Trans Alaska Pipeline Co., et. al., v. Alaska Dept. of Revenue, 2011

Testimony Given Before Ohio Board of Tax Appeals
Ohio Bell Telephone Co. v. State of Ohio

Testimony Given Before Washington State Board of Tax Appeals
Weyerhaeuser Corp. v. Pacific County, WA
Chehalis Power Generating Station v. Lewis County, WA, 2003, 2004

Testimony Given Before Michigan Tax Tribunal
Enbridge Energy, LP v. Wakeshma Township, MI, 2003, 2004

Testimony Given Before Louisiana Tax Commission
St. Charles Parish v. Louisiana Tax Commission, in re; Entergy-Louisiana, 2006

Testimony Given Before Arizona Superior Court
Qwest Corporation v. Arizona Department of Revenue, 2001, 2002, 2003, 2004, 2005
Southwest Airlines v. Arizona Department of Revenue, 2007, 2008, 2009
New Harquahala Generating Co. v. Arizona Dept. of Revenue, 2006, 2007, 2008, 2009
Level 3 Communications v. Arizona Department of Revenue, 2007, 2008, 2009

Testimony Given Before Utah Tax Court
Amoco Rocmount v. Utah State Tax Commission, 1993
SkyWest Airlines v. Utah State Tax Commission, 2006
TMobile USA v. Utah State Tax Commission, et. al., 2003
Utah Association of Counties v. Utah State Tax Commission; re; PacifiCorp, 2006
Union Pacific Railroad v. Utah State Tax Commission, 2007

Testimony Given Before Texas District Court
South Houston Green Power v. Galveston Central Appraisal District, 2006, 2007, 2008

Testimony Given Before Colorado District Court

Southwest Airlines v. State of Colorado, 2009

List of Clients

Utah State Tax Commission – Property Tax Division
Utah Association of Counties
Salt Lake, Morgan, Weber, Uintah, Millard, Beaver, Sevier and Emery Counties, Utah
Granite School District – Salt Lake County, Utah
West Valley City, Utah
Western States Association of Tax Administrators – Centrally Assessed Property
Arizona Department of Revenue
Colorado Department of Local Affairs
Montana Department of Revenue
Texas Comptroller of Public Accounts
Harris County, Texas Appraisal District
Galveston, Texas Central Appraisal District
Lubbock, Texas Central Appraisal District
Idaho State Tax Commission
Idaho County Assessors' Association
Iowa Department of Revenue
Georgia Department of Revenue
Nevada Department of Revenue
New Mexico Dept. of Revenue & Taxation
Ohio State Tax Commission
Arkansas Public Service Commission – Tax Division
Blaine, Custer, Roger Mills, Beckham and Pittsburg Counties, Oklahoma
Nez Perce, Canyon, Twin Falls, Idaho, Gooding, Blaine and Minidoka Counties, Idaho
Louisiana State Tax Commission
St. Charles Parish, Louisiana
Oklahoma State Tax Commission
Oregon Dept. of Revenue
Michigan Dept. of Revenue
Minnesota Dept. of Revenue
City of Grand Rapids, Michigan
Covert Township, Michigan
Wakeshma Township, Michigan
Kenai Peninsula Borough, Alaska
City of Valdez, AK, City and Borough of Fairbanks, AK, North Slope Borough, AK
Washington Dept. of Revenue
Yakima, Mason, Benton, Pacific and Lewis Counties, Washington
Okeechobee County, Florida
Energy Investor Funds Group