

IN THE SECOND JUDICIAL DISTRICT COURT OF DAVIS FARMINGTON DEPARTMENT, STATE OF UTASI

F DAVIS COUNTY
SECOND
OF UTASTRICT COURT

UNION PACIFIC RAILROAD COMPANY,

Petitioner.

vs.

AFFECTED COUNTIES,

Cross Petitioners,

VS.

UTAH STATE TAX COMMISSION,

Respondent.

MEMORANDUM DECISION AND ORDER

Case No. 090700830

Judge John R. Morris

This is before the Court for trial *de novo*, pursuant to Utah Code Ann. § 59-1-601, from a final decision issued by the Utah State Tax Commission. The sole issue before the Court is to determine the fair market value of Union Pacific Railroad Company's tangible operating property that is subject to *ad valorem* property taxation in the State of Utah as of the January 1, 2007 lien date. Union Pacific contends that the Utah State Tax Commission's valuation is too high, whereas the Affected Counties argue that the valuation is too low. As provided below, the Court concludes that, with one adjustment, Union Pacific's valuation is the more credible and accurate valuation of tangible operating property.

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I. OVERVIEW

1. PROCEDURAL HISTORY

On April 30, 2007, the Property Tax Division of the Utah State Tax Commission issued an initial assessment setting the system value of Union Pacific Railroad Company's taxable operating property throughout the United States as \$11,393,990,000. The Tax Division allocated 3.09% of this value to the State of Utah and then, after making necessary adjustments and deductions, determined that the fair market value of Union Pacific's taxable operating property in Utah was \$331,951,680 as of a January 1, 2007 lien date.

Union Pacific did not challenge the Tax Division's assessment. However, the counties in which Union Pacific maintains operating property (including Beaver, Box

Elder, Cache, Carbon, Davis, Emery, Grand, Iron, Juab, Millard, Morgan, Salt Lake, Summit, Tooele, Utah, Wasatch, Washington, and Weber) filed a petition for redetermination of the Tax Division's assessment pursuant to Utah Code Ann. § 59-2-1007(1)(a), requesting that the Tax Commission increase the assessment. Following a formal hearing on the Affected Counties' petition in which Union Pacific participated, the Tax Commission issued its Final Decision on November 16, 2009. The Final Decision set the system value of Union Pacific's taxable operating property throughout the United States at \$17,165,636,930 as of a January 1, 2007 lien date, which, after state allocation and necessary adjustments and deductions, equated to a fair market value of the taxable operating property in the State of Utah of \$499,895,066.

Subsequently, on December 31, 2009, both Union Pacific and the Affected Counties filed petitions for judicial review of the Tax Commission's Final Decision pursuant to Utah Code Ann. § 59-1-601.

2. STANDARD OF REVIEW

On trial *de novo* from a final decision of the Tax Commission, the tax court must "make a new and independent assessment of property value without relying on or deferring to previous Commission assessments." *T-Mobile USA, Inc. v. Utah State Tax Comm'n*, 2011 UT 28, ¶13, 254 P.3d 752. "The court may affirm, reverse, modify, or remand any order of the commission, and shall grant other relief, invoke such other remedies, and issue such orders, in accordance with its decision, as appropriate." Utah Code Ann. § 59-1-604.

The Court's assessment of property value is necessarily a factual determination. "The choice of a valuation methodology and the resulting fair market value are questions of fact[.]" *T-Mobile USA, Inc.*, 2011 UT 28, ¶49. However, "[t]he burden of proof shall fall upon the parties seeking affirmative relief and the burden of going forward with the evidence shall shift as in other civil litigation." Utah Code Ann. § 59-1-604. A

"party's only burden is to show by a preponderance of the evidence that its proposed valuation is more accurate than any other value." *T-Mobile USA, Inc.*, 2011 UT 28, ¶17; see also Utah Code Ann. § 59-1-604 ("A preponderance of the evidence shall suffice to sustain the burden of proof.").

Since both Union Pacific and the Affected Counties have filed petitions for judicial review of the Tax Commission's Final Decision, each has the burden of "demonstrat[ing] that 'the greater weight of the evidence' support[s] the value [they have] proposed." *T-Mobile USA, Inc.*, 2011 UT 28, ¶18 (quoting *Alvarado v. Tucker*, 268 P.2d 986, 988 (Utah 1954)).

3. APPLICABLE LAW

3.1 Taxation of Tangible Property

The Utah Constitution mandates that "all tangible property in the State that is not exempt under the laws of the United States or under this Constitution shall be: (a) assessed at a uniform and equal rate in proportion to its fair market value, to be ascertained as provided by law; and (b) taxed at a uniform and equal rate." Utah Const. art. XIII, § 2(1). Consistent with this provision, the Utah Code provides that "[a]ll tangible taxable property located within the state shall be assessed and taxed at a uniform and equal rate on the basis of its fair market value, as valued on January 1, unless otherwise provided by law." Utah Code Ann. § 59-2-103; see also Utah Admin. Code R884-24P-62(3).

"Tangible property" is not specifically defined in the Utah Constitution or Utah Code. Rather, the Utah Code defines "property" as "property that is subject to assessment and taxation according to its value," which property "does not include intangible property." Utah Code Ann. § 59-2-102(28)(a) & (b).

The Utah Supreme Court has interpreted the term "tangible property," for taxation purposes, to mean that property which "has a physical aspect and has value in and of itself." Salt Lake City Southern R.R. Co., Inc. v. Utah State Tax Comm'n, 1999 UT 90, ¶9, 987 P.2d 594. Tangible property, therefore, includes real property, improvements, equipment, fixtures, and other personal property. See Utah Code Ann. §§ 59-2-102(19), (27), (28), & (30).

"Fair market value" is defined as "the amount at which property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of the relevant facts." *Id.* at § 59-2-102(12); *see also* Utah Admin. Code R884-24P-62(2)(b). "Fair market value" is "determined using the current zoning laws applicable to the property in question, except in cases where there is a reasonable probability of a change in the zoning law affecting that property in the tax year in question and the change would have an appreciable influence upon the value." Utah Code Ann. § 59-2-102(12). Additionally, "[f]air market value reflects the value of property at its highest and best use, subject to regulatory constraints." Utah Admin. Code R884-24P-62(2)(b).

Accordingly, tangible property, or property having a physical aspect and inherent value that is otherwise not intangible property, is subject to taxation at its fair market value based upon its highest and best use.

3.2 Exemption for Intangible Property

Intangible property, on the other hand, is exempt from assessment and property taxation. See Utah Code Ann. § 59-2-1101(3)(a)(vii); see also Utah Admin. Code R884-24P-62(3); Beaver County v. WilTel, Inc., 2000 UT 29, ¶28, 995 P.2d 602. Although not defined in the Utah Constitution, the Utah Code defines "intangible property" as: "(a) property that is capable of private ownership separate from tangible property, including: (i) money; (ii) credits; (iii) bonds; (iv) stocks; (v) representative property; (vi) franchises; (vii) licenses; (viii) trade names; (ix) copyrights; and (x) patents; (b) a low-income housing tax credit; or (c) goodwill." Utah Code Ann. § 59-2-102(20). The Utah Supreme Court has further explained that intangible property in-

cludes "property that has no intrinsic and marketable value, but is merely the representative or evidence of value[.]" *T-Mobile USA, Inc.*, 2011 UT 28, ¶31 (Internal quotations omitted).

"Goodwill" is limited to "acquired goodwill that is reported as goodwill on the [taxpayer's] books and records" or a business's ability to "generate income" or "economic or competitive advantage," in either case exceeding what is normal or expected and attributable to certain generic factors subsequently enumerated. Utah Code Ann. § 59-2-102(16)(a) & (b). Of interest is the express exclusion from the statutory definition of "goodwill" for "the enhancement or assemblage value specifically attributable to the interrelation of the existing tangible property in place working together as a unit." *Id.* at § 59-2-102(16)(c)(i) & (iv).

Therefore, intellectual property such as copyrights is exempt intangible property, and its value is properly excluded from the valuation of a business's property. Goodwill, on the other hand, is generally not excludable from the valuation until recognized and quantified for financial accounting purposes, as in the excess of the price paid for a business over its book value. *See generally*, *T-Mobile USA*, *Inc.*, 2011 UT 28.

3.3 Unitary Property

"The Tax Commission is charged with the responsibility of assessing the fair market value each year of "all property which operates as a unit across county lines, if the values must be apportioned among more than one county or state." Utah Code Ann. § 59-2-201(1)(a)(i). This property, eponymously referred to as "unitary property," is regarded as more than "merely land, buildings, and other assets[; r]ather, its value depends on the interrelation and operation of the entire [system] as a unit[, as m]any of the separate assets would be practically valueless without the rest of the system." WilTel, Inc., 2000 UT 29, ¶35 (Internal quotations omitted). "A unitary appraisal[, therefore,] involves the appraisal of property that operates as a unit across county or state lines." T-Mobile USA, Inc., 2011 UT 28, ¶5 n.3; see also Utah Admin. Code

R884-24P-62(d)(i)(A). "In determining the value of property for tax purposes, the value of the property is first calculated as a unit and then apportioned by county or state." *T-Mobile USA*, *Inc.*, 2011 UT 28, ¶5 n.3.

The parties agree that Union Pacific operates property as a unit across Utah state and county lines, and that a unitary appraisal is the appropriate approach for assessing the fair market value of the property. See WilTel, Inc., 2000 UT 29, ¶21 ("From a purely practical perspective, central assessment is the most rational way to determine the value of an enterprise whose function relies upon cross-boundary connections.").

Additionally, the parties have stipulated to an apportionment or allocation of 3.09% of Union Pacific's unitary system value to the State of Utah, and to a further relief deduction of 5.20% pursuant to the Railroad Revitalization and Regulatory Reform Act (the "4-R Act"), 49 U.S.C. § 11501.

3.4 Rule 62

In making a unitary appraisal, the Utah Supreme Court has recognized that "[r]equiring the tax court to use a specific valuation method ignores the reality that certain methodologies are not always accurate in every circumstance." *T-Mobile USA, Inc.*, 2011 UT 28, ¶51. Accordingly, the Utah Supreme Court has "endorsed the following approaches in assessing fair market value: cost, income, and market." *Salt Lake City Southern R.R. Co., Inc.*, 1999 UT 90, ¶14. "The cost approach determines property value on the basis of its cost less depreciation." *Id.* at ¶14. "The income approach determines the value of property by determining the income which that property can derive." *Id.* "The market approach uses the prices at which comparable properties are bought and sold as a basis for determining value." *Id.*

The Tax Commission has adopted an administrative rule to provide internal guidance in unitary valuations. *See* Utah Admin. Code R884-24P-62.¹ Although not binding on the Court for purposes of a trial *de novo*, Rule 62 is a compilation of accepted unitary appraisal methodologies that provides both a guide and structure in evaluating the appraisals put forward by the parties. For this reason a summary of the provisions of Rule 62 pertinent to unitary appraisals follows.

3.4.1 Purposes of Rule 62

The Tax Commission adopted Rule 62 to "specify consistent mass appraisal methodologies to be used ... in the valuation of tangible property" and to "identify preferred valuation methodologies to be considered by any party making an appraisal of an individual unitary property." *Id.* at R884-24P-62(1). Rule 62's "[p]referred valuation methods ... [are] rebuttable presumptions, established for purposes of consistency in mass appraisal." *Id.* at R884-24P-62(b)(iii).

3.4.2 Preferred Valuation Methods under Rule 62

Rule 62 provides that "[t]he preferred methods to determine fair market value are the cost approach and a yield capitalization income indicator[.]" Utah Admin. Code R884-24P-62(4)(b).

¹ References and citations to Rule 62 are to the 2012 version of the Rule. While the Tax Commission has amended Rule 62 since the version in effect at the time of the January 1, 2007 lien date, these amendments primarily pertain to a renumbering of the Rule's subsections and substantive changes to portions of the Rule that are not applicable here. The sole exception is a 2008 amendment which affected language within the Rule's subsection regarding the discounted cash flow ("DCF") method of the income approach. See Utah Admin. Code R884-24P-62(5)(b)(ii). However, the 2008 amendment does not alter the applicability of the DCF method, but rather clarifies the importance of establishing reliable cash flow estimates when the method is used in mass appraisals. See Id. The amendment further delineates generally accepted factors that should be incorporated into the method and considerations for growth and forecasting growth when unusual income patterns are present. See Id. at R884-24P-62(5)(b)(ii)(A), (B) & (C). Accordingly, the alterations made by the 2008 amendment merely clarify the DCF method and do not substantively affect how the Court views the DCF method's application in this case, or the Court's ultimate determination in this matter.

(i) Cost Approach

Under the cost approach, "[a] cost indicator may be developed under one or more of the following methods: replacement cost new less depreciation (RCNLD), reproduction cost less depreciation (reproduction cost), and historic cost less depreciation (HCLD)." *Id.* at R884-24P-62(5)(a).

"Replacement cost is the estimated cost to construct, at current prices, a property with utility equivalent to that being appraised, using modern materials, current technology and current standards, design, and layout[, which, when applied,] eliminates the need to estimate some forms of functional obsolescence." *Id.* at R884-24P-62(5)(a)(ii). "Reproduction cost is the estimated cost to construct, at current prices, an exact duplicate or replica of the property being assessed, using the same materials, construction standards, design, layout and quality of workmanship, and embodying any functional obsolescence." *Id.* at R884-24P-62(5)(a)(iii). "Historic cost is the original construction or acquisition cost as recorded on a firm's accounting records[,]" which depending upon the industry, may be appropriate to trend to current costs using commonly recognized indexes within the specific industry. *Id.* at R884-24P-62(5)(a)(iv).

Rule 62, however, recognizes that "RCNLD may be impractical to implement; therefore[,] the preferred cost indicator of value in a mass appraisal environment for unitary property is HCLD." *Id.* at R884-24P-62(5)(a)(v). Notwithstanding the foregoing, in valuing railroad properties "[t]he cost indicator should generally be given little or no weight because there is no observable relationship between cost and fair market value." *Id.* at R884-24P-62(6)(b)(i) & (ii).

(ii) Income Indicator Approach

The income indicator approach, on the other hand, accepts that "[u]nder the principle of anticipation, benefits from income in the future may be capitalized into an

estimate of present value." *Id.* at R884-24P-62(5)(b). Rule 62 discusses three generally accepted methods for applying the income indicator approach: yield capitalization, DCF or discounted cash flow, and direct capitalization. *See Id.* at R884-24P-62(5)(b).

The first method, yield capitalization, is Rule 62's preferred method of applying the income indicator approach to valuation. The governing formula is "CF/(k-g), where 'CF' is a single year's normalized cash flow, 'k' is the nominal, risk adjusted discount or yield rate, and 'g' is the expected growth rate of the cash flow." *Id.* at R884-24P-62(5)(b)(i). "Cash flow is calculated as net operating income (NOI) plus non-cash charges (e.g., depreciation and deferred income taxes), less capital expenditures and additions to working capital necessary to achieve the expected growth 'g'." *Id.* at R884-24P-62(5)(b)(i)(A). "The discount rate (k) [is] based upon a weighted average cost of capital (WACC) considering current market debt rates and equity yields[,]" with the capital asset pricing model (CAPM) as the preferred method to estimate the cost of equity. *Id.* at R884-24P-62(5)(b)(i)(B). "The growth rate 'g' is the expected future growth of the cash flow attributable to assets in place on the lien date, and any future replacement assets." *Id.* at R884-24P-62(5)(b)(i)(C).

Under the second method, DCF, "[f]orecasted growth may be used where unusual income patterns are attributed to (I) unused capacity; (II) economic conditions; or (III) similar circumstances." *Id.* at R884-24P-62(5)(b)(ii)(B). The governing formula is: $NCF^{1}/(1+k)^{1} + NCF^{2}/(1+k)^{2} \dots NCF^{n}/(1+k)^{n}$, where "NCF" is the annual normalized cash flow and "k" is the same as in the yield capitalization method.

The yield capitalization method is a derived, simpler form of the DCF method, where future cash flow growth is held constant. Although the DCF method offers greater precision, the yield capitalization method is preferred since it is more easily applied. Rule 62 recognizes that the DCF method "may be impractical to implement in a mass appraisal environment, [unless] reliable cash flow estimates can be established." *Id.* at R884 24P 62(5)(b)(ii).

Under the yield capitalization method, normalized net cash flow is "projected for the year immediately following the lien date, and may be estimated by reviewing historic cash flows, forecasting future cash flows, or a combination of both." *Id.* at R884-24P-62(5)(b)(i)(A)(III). The DCF method uses variable projected cash flows for a period of years following the lien date, and calculates a terminal value for subsequent years.

Under the third income indicator approach, direct capitalization, "an estimate of a single year's income expectancy [is converted] into an indication of value ... by dividing the normalized income estimate by a capitalization rate or by multiplying the normalized income estimate by an income factor." *Id.* at R884 24P 62(5)(b)(iii).

(iii) Other Appraisal Methods

Rule 62 acknowledges that "[o]ther generally accepted appraisal methods may also be used when it is demonstrated that such methods are necessary to more accurately estimate fair market value." *Id.* at R884-24P-62(4)(b)(i). In particular, Rule 62 identifies the stock and debt method as an alternative to a market approach, since sales of unitary properties are infrequent. *See Id.* at R884-24P-62(5)(c)(ii). "The stock and debt method is based on the accounting principle which holds that the market value of assets equals the market value of liabilities plus shareholder's equity." *Id.*; *see also Cache County v. Prop. Tax Div. of Utah State Tax Comm'n*, 922 P.2d 758, 763 (Utah 1996) ("Under this indicator, the market value of a [company's] property is determined by considering the market value of the [company's] common and preferred stock in addition to the market value of its bond (or debts).").

Rule 62 acknowledges that "the stock and debt method typically capture[s] the value of intangible property at higher levels than other methods [and, therefore, t]o the extent intangible property cannot be identified and removed, relatively less weight shall be given to [the method] in the reconciliation process[.]" Utah Admin. Code R884-24P-62(4)(b)(ii).

3.4.3 Reconciliation Process

Where more than one mass appraisal methodology is used to derive unitary value, the several values must be reconciled or combined by means of weighting percentages into a single correlated system or unitary value. Rule 62 provides that "[w]hen reconciling value indicators into a final estimate of value, the appraiser shall take into consideration the availability, quantity, and quality of data, as well as the strength and weaknesses of each value indicator." *Id.* at R884-24P-62(5)(d). Moreover, Rule 62 recognizes that "[w]eighting percentages used to correlate the value approaches will generally vary by industry, and may vary by company if evidence exists to support a different weighting." *Id.* at R884-24P-62(5)(d).

The unitary system value of "assets" so derived necessarily includes both tangible and intangible assets. Otherwise, the valuation would be of static property and not a going concern. The correlated system value must therefore be further adjusted by subtracting the value of exempt intangible property captured in the valuation. Rule 62 acknowledges that when implementing any appraisal methodology for a unitary property, "[t]he assemblage or enhanced value attributable to the tangible property [may be captured, and therefore] should be included in the assessed value." *Id.* at R884-24P-62(4)(a). Accordingly, "[t]he value attributable to intangible property must, when possible, be identified and removed from value when using any valuation method and before that value is used in the reconciliation process [to obtain a final estimate of value]." *Id.*

Next, any "[p]roperty separately assessed by the Division, such as registered motor vehicles, shall be removed from the [adjusted] correlated unit value or from the state allocated value" in order to derive the Utah assessed value of the unit. *Id.* at R884-24P-62(4)(c); *see also* Utah Code Ann. § 59-2-201(5) ("Property assessed by the unitary method, which is not necessary to the conduct and does not contribute to the

income of the business as determined by the commission, shall be assessed separately by the local county assessor.").

Finally, in the case of railroad property, the Utah assessed value is further reduced by the 4-R Act Deduction to arrive at a Utah taxable value for the unit property.

3.5 The Derivation of Utah Taxable Value

The means by which the Utah taxable value of unitary property is to be derived, as previously discussed, may be summarized in the following five steps:

- FIRST, a correlated system value is derived by means of one or more valuation methods;
- SECOND, the correlated system value is adjusted by the subtraction of the value of any intangible property captured to derive an adjusted system value;
- THIRD, the adjusted system value is multiplied by the Utah Allocation Factor to derive an apportioned Utah market value;
- FOURTH, the Utah market value is further adjusted by subtraction of the value of any locally assessed property, such as motor vehicles, to derive a Utah assessed value; and
- FIFTH, the Utah assessed value is adjusted by the 4-R Act Deduction to arrive at a Utah taxable value for the unitary property.

For purposes of this trial *de novo* and with regard to the standard of review and applicable law, the Court must find the fair market value of Union Pacific's taxable property from the weight of credible evidence received. This is to be accomplished without any deference to the Tax Commission, its proceedings, procedures, determinations, or findings, or any requirement of strict compliance with Rule 62. *See T-Mobile USA, Inc.*, 2011 UT 28, ¶¶13 & 51. The result should be the objective product of generally accepted valuation methodologies, applied in such manner as to yield an accurate, reliable, and consistent derived unitary value supported by the evidence.

II. FINDINGS OF FACT

The Court held the evidentiary phase of trial over a period of three weeks on February 15-17, 22-24, and 29, and March 1, 2012, and heard closing arguments from counsel on April 19, 2012. Pre-trial and post-trial briefs were received, as well as a substantial quantity of documentary evidence.

As the primary issue to be decided is the correct valuation of Union Pacific's Utah taxable operating property, the strengths and weaknesses associated with the appraisers' mass appraisal approaches and resulting valuations were the focal point of the testimony. Both parties submitted substantial and conflicting evidence in support of their valuations.

Fact and expert witnesses were heard, and the competency, completeness, consistency, and reliability of their testimony and the unitary appraisal methodologies espoused were weighed and evaluated in the context of the issues to be decided. Accordingly, the Court, having concluded that each is supported by a preponderance of the evidence, makes the following factual findings:

- 1. Union Pacific is a Delaware company and an indirect, wholly-owned subsidiary of Union Pacific Corporation. Union Pacific has no publicly traded stock.
- 2. Union Pacific operates a Class I railroad and owns tangible operating property in the State of Utah that is subject to *ad valorem* property taxation.
- 3. The highest and best use of Union Pacific's operating property for determining fair market value is as a Class I railroad.
- 4. The valuation lien date relevant to the parties' petitions for judicial review is January 1, 2007.
- 5. The applicable Utah Allocation factor is 3.09%, and the 4-R Act Deduction factor is 5.20%.
- 6. As of January 1, 2007, Union Pacific operated one of the largest railroad systems in the United States, with approximately 32,339 route miles in 23 states, 8,307

locomotives and 94,828 freight cars, and approximately 50,700 employees. Union Pacific transports six main classes of material, including agricultural, automotive, chemical, energy, industrial product, and intermodal.

- 7. Union Pacific's operations are subject to the regulatory jurisdiction of the Surface Transportation Board, the Federal Railroad Administration, and other federal and state agencies. The STB has jurisdiction over rates charged for certain rail traffic, freight car compensation, and other transfer and acquisition items.
- 8. The railroad industry in which Union Pacific operates is cyclical because revenue growth tends to follow the level of industrial production in the United States.
- 9. Union Pacific's earnings have also been cyclical throughout its operational history.
- 10. The railroad industry and Union Pacific have consistently earned lower rates of return on investment when compared with both market rates and the STB determined cost of capital. When a railroad earns a return below the STB determined cost of capital, it is considered to be revenue inadequate. During the ten year period prior to the January 1, 2007 lien date, Union Pacific was considered revenue inadequate.
- 11. The railroad industry's and Union Pacific's operations are subject to business risks, including weather related interruptions, the availability of trained personnel, the required transport of hazardous materials, the application of new technologies, volatility in fuel charges, the availability of capital, and competition from other modes of transportation.
- 12. At trial, Union Pacific relied on the testimony of two fact witnesses and two expert witnesses. The fact witnesses were Robert D. Fredericks and Edward J. Weber, and the expert witnesses were Dr. Arthur A. Schoenwald and Robert F. Reilly.

- 13. Mr. Fredericks is the Senior Director-Property Tax for Union Pacific, and an ASA (American Society of Appraisers) designated appraiser having over 37 years' experience working with valuation matters affecting Union Pacific's railroad operating properties.
- 14. Mr. Weber is the Vice President-Planning and Analysis for Union Pacific, and has 32 years' experience working with Union Pacific. He is responsible for capital budgeting and cost of profit planning for Union Pacific.
- 15. Dr. Schoenwald is a respected national expert in valuation methodologies with over 40 years' experience valuing railroad operating properties. Dr. Schoenwald received his doctorate from Harvard University Graduate School of Business Administration, where his specialty focus was in the field of valuation. He has prepared studies and has testified as an expert in 35 states.
- 16. Mr. Reilly is a Managing Director of Willamette Management Associates, and one of the nation's leading appraisers of intangible properties. Mr. Reilly received his Master of Business Administration degree from Columbia University. He has over 30 years' experience valuing intangible properties and holds multiple appraisal and accounting designations.
- 17. The Affected Counties relied on the testimony of two expert witnesses: D. Brent Eyre and Dr. A. James Ifflander.
- 18. Mr. Eyre is an expert appraiser and auditor, specializing in the valuation of unitary properties. Mr. Eyre formerly worked as the Assistant Director of the Tax Commission's Property Tax Division. Mr. Eyre holds an ASA appraisal designation and received a bachelor's degree in accounting from Brigham Young University.
- 19. Dr. Ifflander is an expert financial and economic consultant. He has 30 years' experience in finance and economics with a specialty in the valuation of assets for property taxation purposes. Dr. Ifflander received his doctorate from Michigan State University.

- 20. The Commission elected not to call any witnesses in this matter and presented no evidence in support of the findings and conclusions made in its Final Decision.
- 21. Dr. Schoenwald prepared and presented an appraisal report in which he determined that the system value of Union Pacific's operating property was \$12,842,900,000 on the January 1, 2007 lien date. Dr. Schoenwald calculated unitary system values using both the yield capitalization and DCF methods, but gave full 100% weight to the higher system value derived using the DCF method in his correlation. Reliable cash flow estimates were established and used by Dr. Schoenwald in his application of the DCF valuation method.
- 22. Mr. Eyre prepared and presented an appraisal report in which he determined that the correlated system value of Union Pacific's taxable operating property was \$20,000,000,000 on the January 1, 2007 lien date. Mr. Eyre calculated unitary system values using four generally accepted methods: the cost approach, the yield capitalization income indicator method, the DCF income indicator method, and the stock and debt method. In his correlation of the four value indicators, Mr. Eyre assigned, without substantive support, weights of 0%, 2%, 2%, and 96% respectively to the values obtained using these methods.
- 23. However, the accuracy, reliability, and consistency of Mr. Eyre's correlated system value is not supported by the evidence. Mr. Eyre did not make a thorough, independent investigation into or validate underlying data, subjectively selected data, improperly used Union Pacific's internal test case data, and incurred methodological errors and inconsistencies. Accumulated inaccuracies and errors in the underlying data caused his derived system values to be less reliable. Furthermore, Mr. Eyre made no adjustment in his appraisal for intangible property exempt from Utah property taxation.

- 24. Accordingly, the Affected Counties and the Tax Commission have not shown that the more accurate unitary system value of Union Pacific's property as of the January 1, 2007 lien date is that offered by Mr. Eyre.
- 25. Dr. Schoenwald conducted a thorough investigation into the underlying data, assumptions, and variables used in his valuations. Each of his judgments and conclusions were accurate, reliable, consistent, and supported by the evidence.
- 26. The Affected Counties and the Tax Commission offered insufficient evidence to cast doubt on Dr. Schoenwald's data, methodology, or system value conclusions.
- 27. Accordingly, Union Pacific has shown that Dr. Schoenwald's testimony and appraisal are factually more credible, accurate, and reliable, and is entitled to greater weight and confidence than that of Mr. Eyre.
- 28. Mr. Reilly prepared and presented an appraisal report in which he determined that the value of Union Pacific's intangible property consisting of custom computer software was \$1,143,000,000 on the January 1, 2007 lien date. The cost approach valuation method and the COCOMO and KPLAN models used by Mr. Reilly to value the software are generally recognized and accepted methods for valuing the replacement cost of custom computer software.
- 29. Mr. Reilly conducted a thorough investigation into the underlying data, assumptions, and variables used in his valuations. Each of his judgments and conclusions were credible, accurate, reliable, and supported by the evidence.
- 30. The Affected Counties offered neither a competing valuation of Union Pacific's intangible property consisting of custom computer software, nor sufficient evidence to cast doubt on Mr. Reilly's methodology or system value conclusions.
- 31. Mr. Reilly also derived a value for Union Pacific's intangible property consisting of its assembled workforce of \$570,000,000 as of the lien date.

- 32. Accordingly, based on the accumulated evidence, Union Pacific has shown that the more accurate, unadjusted, unitary system value of its property as of the January 1, 2007 lien date is \$12,842,900,000, as calculated by Dr. Schoenwald.
- 33. Furthermore, Union Pacific has shown that the more accurate valuation of its intangible property consisting of custom software as of the January 1, 2007 lien date is \$1,143,000,000, as calculated by Mr. Reilly. Union Pacific's unitary system value is properly adjusted by the subtraction of this amount.
- 34. Union Pacific's trained and assembled workforce consisting of trained engineers does not fall within any class or type of property recognized as exempt intangible property under Utah law. Union Pacific is not entitled to adjustment of its unitary system value by the value of its Union Pacific's assembled workforce derived by Mr. Reilly.
- 35. The Court calculates the value of Union Pacific's locally assessed vehicles as of the lien date as \$2,117,670. The allocated Utah market value, or the value of Union Pacific's adjusted system value apportioned to Utah, is properly adjusted by the deduction of this amount.
- 36. Finally, the Utah assessed value must be adjusted by the 4-R Act Deduction to determine Utah taxable value.
- 37. Accordingly, the Court finds that the Utah taxable value of Union Pacific's operating property is \$340,719,960, derived as follows:

Correlated System Value	\$ 12,842,900,000
LESS Computer Software	(1,143,000,000)
Adjusted System Value	\$ 11,699,900,000
TIMES Utah Allocation Factor	3.09%
Utah Market Value	\$ 361,526,910
LESS Locally Assessed Vehicles	(2,117,670)
Utah Assessment	\$ 359,409,240
LESS 4-R Act Deduction Factor	5.20%
UTAH TAXABLE VALUE	\$ 340,719,960

III. DISCUSSION/ANALYSIS

At trial, the parties' principal valuation experts, Dr. Schoenwald and Mr. Eyre, offered opinions as to the fair market value of the Union Pacific's tangible operating property for *ad valorem* property taxation as of the January 1, 2007 lien date.

Using the DCF income indicator method, Dr. Schoenwald derived an adjusted system value of Union Pacific's tangible operating property throughout the United States of \$11,219,900,000, including deductions totaling \$1,713,000,000 for exempt intangible property based upon Mr. Reilly's appraisal. After adjustment for locally assessed vehicles and the 4-R Act deduction, this equated to a Utah taxable value of \$324,120,726 as of the lien date.

Mr. Eyre calculated a correlated system value of Union Pacific's operating property throughout the United States of \$20,000,000,000, based on a weighted average of three values obtained using the yield capitalization and DCF income indicator methods and the alternative stock and debt method. Making no deductions for intangible property, and after the Utah allocation and deductions for locally assessed vehicles and the 4-R Act, Mr. Eyre concluded that the taxable value of Union Pacific's tangible operating property in the State of Utah was \$582,436,914 as of the lien date.

Dr. Schoenwald's and Mr. Eyre's appraisals are summarized as follows:

	Dr. Schoenwald's Appraisal:		Mr. Eyre's Appraisal:	
Valuation Methodology	Weight	Amount	Weight	Amount
Cost/Market Approach			0%	\$ 37,547,511,899
Yield Cap Income Indicator	0%	\$ 11,648,300,000	96%	\$ 19,583,439,450
DCF Income Indicator	100%	\$ 12,842,900,000	2%	\$ 39,365,816,000
Stock and Debt Method			2%	\$ 34,492,740,358
Correlated System Value		\$ 12,842,900,000		\$ 20,000,000,000
LESS Computer Software		(1,143,000,000)		
LESS Assembled Workforce		(570,000,000)		
Adjusted System Value	_	\$ 11,129,900,000		\$ 20,000,000,000
TIMES Utah Allocation Factor		3.09%		3.09%
Utah Market Value	-	\$ 343,914,000		\$ 618,000,000
LESS Locally Assessed Vehicles		(2,014,500)		(3,615,070)
Utah Assessment	_	\$ 341,899,500		\$ 614,384,930
LESS 4-R Act Deduction		(17,778,774)		(31,948,016)
Utah Taxable Value	_	\$ <u>324,120,726</u>		\$ 582,436,914

The valuation methodologies, deductions and adjustments used in Dr. Schoenwald's and Mr. Eyre's appraisals are discussed below.

1. COST AND MARKET VALUATION APPROACH

The parties found two of the three principal unitary valuation methods identified by case law and Rule 62, namely the cost and market approaches, to be unsuitable for valuing Union Pacific's tangible operating property.

Dr. Schoenwald did not perform a cost approach valuation. Mr. Eyre completed a cost approach valuation using Rule 62's preferred HCLD method, but gave no weight to the valuation in his reconciliation. Dr. Schoenwald and Mr. Eyre agreed that the cost approach would not produce an accurate and reliable valuation and was

not relevant in valuing Union Pacific's tangible operating property for purposes of ad valorem property taxation. See Utah Admin Code R884-24P-62(6)(b)(ii).

Dr. Schoenwald and Mr. Eyre also agreed that a market valuation approach was not applicable in this case, as there were no sales of comparable properties that would allow for accurate valuation estimates. *See Id.* at R884-24P-62(5)(c) ("The market approach is estimated by comparing the subject property to similar properties that have recently sold.").

2. INCOME INDICATOR VALUATION APPROACH

Dr. Schoenwald and Mr. Eyre agreed that an income indicator approach is preferred for valuing Union Pacific's operating property, but disagreed with respect to the application of the approach.

Neither Dr. Schoenwald nor Mr. Eyre prepared a valuation of Union Pacific's operating property using the income indicator approach's direct capitalization method. The direct capitalization method is not preferred under Rule 62, and the parties did not present valuations using that method.

Both Dr. Schoenwald and Mr. Eyre prepared valuations of Union Pacific using the income indicator approach's yield capitalization and discounted cash flow or DCF methods. The formulas for these two methods rely on the same three variables: NCF, or normalized net cash flow estimated for the year following the lien date; "k," or the nominal risk adjusted discount or yield rate; and "g," or the expected growth rate of the cash flows. The formulas differ in that the yield capitalization method assumes that the growth rate "g" will be constant throughout the life of the property appraised, while the DCF method allows the growth rate to vary during an initial forecast period and then assumes a constant growth rate thereafter to facilitate the calculation of a terminal value.

Additionally, Union Pacific leases operating properties, principally locomotives and freight cars, which contribute to operating income. Because operating lease rents are expensed, thereby lowering income, the income indicator valuation approach will typically understate value where operating leases exist. To more accurately value Union Pacific's property using this approach, leased operating property is treated as if owned, adjustments to operating income that flow from this treatment are made (e.g, rental payment disallowance, depreciation), and the value of the leased operating property is estimated and added back to the valuation.

Dr. Schoenwald's and Mr. Eyre's income indicator approach valuations, and the respective values used for the primary variables NCF, "k," "g," and leased operating property, are summarized as follows:

Component	Dr. Schoenwald's Valuation	Mr. Eyre's Valuation	
2007 Normalized Net Cash Flow	\$798,100,000	\$1,386,525,000	
Discount or Yield Rate "k"	10.282%	10.37%	
Growth Rate "g"	2.50%	1.50%	
Present Value of Cash Flows	\$10,255,718,324	\$15,631,623,450	
ADD Leased Operating Property	1,392,600,000	3,951,816,000	
Yield Capitalization Method System Value	\$11,648,318,324	\$19,583,439,450	
DCF System Method System Value	\$12,842,900,000	\$39,365,816,000	

As the yield capitalization method is a special case of the DCF method, substantive differences in Dr. Schoenwald's and Mr. Eyre's valuations using these two methods can be seen in their treatment of the three variables NCF, "k," and "g" and their derivation of the leased operating property adjustment.

2.1 Normalized Net Cash Flow or NCF

To use either income indicator approach, net cash flow or NCF must be estimated for the year beginning with the January 1, 2007 lien date by making specific adjustments to net operating income or NOI projected for the same period.

Rule 62 states the generally accepted formula for the derivation of cash flow from financial accounting data: "[c]ash flow is calculated as net operating income (NOI) plus non-cash charges (e.g., depreciation and deferred income taxes), less capital expenditures (also referred to as "reinvestment") and additions to working capital necessary to achieve the expected growth 'g'":

NOI or Net Operating Income

ADD Non-cash Charges
LESS Capital Expenditures (Reinvestment)
LESS Working Capital Increase
NCF or Net Cash Flow

Id. at R884-24P-62(5)(b)(i)(A).

To arrive at a value for cash flow, operating income must be adjusted for items that either increase or decrease the availability of cash to the business. For example, depreciation affects cash flow because it reduces book income without an actual cash outlay. It is a non-cash charge against revenues and, accordingly, more cash is available to the enterprise than appears from its income alone. Depreciation should therefore be added back to income to correctly state cash flow. On the other hand, capital expenditures required to sustain the projected growth in income require actual cash expenditures which reduce available cash, even though the expenditures may for reporting purposes be capitalized and expensed or charged against revenues over a period of years to derive income. Capitalized expenditures are therefore subtracted from income in the year made to determine cash flow.

2.1.1 Dr. Schoenwald's NCF Estimate

Dr. Schoenwald's derivation of estimated normalized net cash flow or NCF for 2007 is summarized as follows:

Component	Dr. Schoenwald's Estimate
Adjusted 5-yr Avg. Gross Cash Flow	\$3,257,700,000
Growth Factor "g"	2.5%
Gross Cash Flow before Tax and Reinvestment	\$3,339,100,000
LESS Tax Depreciation Expense	(1,387,700,000)
Taxable Income before Interest Expense	\$1,951,400,000
ADD Tax Expense (37.3%)	727,900,000
Cash Flow before Reinvestment	\$2,611,200,000
LESS Capital Expenditures (Reinvestment)	(1,747,600,000)
LESS Disposed Property	(35,000,000)
LESS Working Capital Increase	(30,500,000)
Normalized Net Cash Flow (NCF)	\$798,100,000

(i) Adjusted Average Gross Cash Flow

Dr. Schoenwald testified that since Union Pacific's earnings throughout its relevant operational history have been cyclical, it would be appropriate to use a five-year average of Union Pacific's historical cash flows before tax and reinvestment in deriving net cash flow to capture the effect of the business cycles. Dr. Schoenwald therefore used Union Pacific's historical revenues and expenses for the five years preceding the January 1, 2007 lien date in his calculation of NCF. Operating income for each year was calculated by subtracting operating expenses from operating revenues and adding back book depreciation expense, which is a non-cash charge. The one-time charge taken for asbestos litigation claims was reversed and amortized over a thirty-year period to match Union Pacific's anticipated annual claim expense, thereby "distributing" or "normalizing" the impact of the cash item on cash flow over the affected years rather

than the single year permitted by accounting standards. Further adjustments were made to reported income and expense for corporate expense, compensation expense, NROI, and miscellaneous rental income. The resulting five-year average of normalized, adjusted gross cash flow before taxes and reinvestment was calculated to be \$3,257,700,000.

Dr. Schoenwald then estimated Union Pacific's normalized, adjusted gross cash flow before taxes and reinvestment for 2007 to be \$3,339,100,000 by applying the expected growth rate "g" of 2.5% to the five-year average gross cash flow. The derivation constituted a linear trend analysis, with a slope or rate of change of 2.5%.

(ii) Tax Depreciation

Having calculated Union Pacific's 2007 gross cash flow before taxes and reinvestment, Dr. Schoenwald derived 2007 taxable income and tax expense directly by deducting estimated tax depreciation expense. Since tax depreciation directly impacted cash flows, the use of tax depreciation simplified the cash flow calculation by accounting for the impact and relationship of deferred income taxes with book depreciation. Although mathematically equivalent to the traditional DIT-based adjustments found in Rule 62, Dr. Schoenwald's approach avoided the complex process of calculating book and tax depreciation expense for Union Pacific's existing and replacement assets, deriving DIT from the difference between depreciation methods, and then adjusting cash flow. Since book depreciation expense was previously eliminated from the annual gross cash flow figures, adjustment for DIT is no longer required. The use of tax depreciation expense therefore yields an accurate taxable income, from which tax expense can be readily calculated.

Dr. Schoenwald independently calculated MACRS tax depreciation expense for all Union Pacific's operating assets for the first and subsequent years following the lien date, which was then subtracted from gross cash flow to determine taxable income. By calculating an anticipated tax expense using a combined Federal and State

rate of 37.3%, which is then added back to taxable income, Dr. Schoenwald arrived at \$2,611,200,000 for estimated 2007 cash flow before reinvestment.

The Affected Counties criticized Dr. Schoenwald's normalized net cash flow estimate because he did not start with NOI and did not make an adjustment for annual DIT, departing from the procedure outlined in Rule 62. See Id. at R884-24P-62(5)(b)(i)(A). DIT or deferred income tax typically arises when there is a difference between tax depreciation and book depreciation. If tax depreciation is larger than book depreciation, the additional amount may be used to reduce taxable income and therefore defer income tax that would otherwise be due. Cash flow increases in the amount of the deferred income tax. However, in the later years of an asset's life, tax depreciation may be less than book depreciation, in which case the smaller tax depreciation amount results in an increase to taxable income, a higher income tax, and a corresponding reduction in cash flow. The benefit of higher tax depreciation in reducing taxes and increasing cash flow in early years is said to be "recaptured" and the deferred tax paid in later years.

Adjusting for DIT and its recapture can be complicated, particularly where replacement capital expenditures must be taken into account. As DIT is associated with the difference between tax depreciation and book depreciation, if the appraiser uses tax depreciation to estimate net cash flows rather than book depreciation, he will not have to make an annual DIT adjustment because he will have already fully accounted for the actual taxes collected on the estimated income stream. Since the gross cash flow figures used by Dr. Schoenwald do not include book depreciation, there is no difference between book and tax depreciation for which an adjustment needed to be made. Regarding the effect of reinvestment expense, Dr. Schoenwald derived the precise mathematical relationship between replacement capital expenditures and future tax depreciation on Union Pacific's assets, and demonstrated that the net cash flow estimates will be the same whether an appraiser uses tax depreciation or uses book de-

preciation with a DIT adjustment. Accordingly, the Affected Counties' criticism is misplaced, and Dr. Schoenwald's tax depreciation approach correctly and directly accounts for the actual impact of depreciation on NOI and cash flow.

(iii) Replacement Capital Expenditure (Reinvestment)

Mr. Weber testified that replacement expenditures for owned locomotives and freight cars were typically not made in level or uniform amounts each year. He further testified that, due to financial and other constraints, the replacement capital expenditures made during the five-year period preceding the lien date would not be adequate to maintain Union Pacific's fleets into the future. For that reason, the use of average replacement capital expenditures over the preceding five-year period would understate the expenditures actually required for fleet maintenance and overstate NOI and NCF.

Dr. Schoenwald conducted an independent analysis of the capital expenditures needed to maintain Union Pacific's freight hauling capacity, measured in ton-miles, existing prior to the lien date and as increased in the future based on the projected annual growth factor "g". From a review of historical use, depreciation, replacement, and obsolescence of vintages of owned locomotives and freight cars, Dr. Schoenwald calculated a five-year average replacement capital expenditure of \$1,705,000,000 as the amount required to maintain present capacity as well as provide the additional capacity to support projected growth. Accordingly, 2007 replacement capital expenditures were estimated to be \$1,747,600,000. In this manner, the impact of Union Pacific's deferred replacement of owned locomotives and freight cars is normalized across the relevant years.

Upon deriving his replacement capital expenditure estimate, Dr. Schoenwald determined that tax depreciation for the existing assets and the replacement capital expenditures that would be required to maintain the existing assets would be approximately \$1,387,700,000 for 2007. Dr. Schoenwald also calculated the tax depreciation for each of the ten future years used in his DCF model.

Dr. Schoenwald deducted his tax depreciation estimates from adjusted gross cash flows to derive the taxable income that should be used to estimate the applicable tax expense. Dr. Schoenwald applied a combined Federal and State tax rate of 37.3% to derive a tax expense of \$727,900,000. He then subtracted the tax expense (\$727,900,000), replacement capital expenditures (\$1,747,600,000), disposed property (\$35,000,000), and increases in cash working capital (\$30,500,000) from his gross cash flows estimate before taxes and reinvestment (\$3,339,100,000), and derived his estimate of normalized net cash flows for 2007 of \$798,100,000.

2.1.2 Mr. Eyre's NCF Estimate

Mr. Eyre's approach to the derivation of NCF materially differed from Dr. Schoenwald's approach. His estimate of \$1,386,525,000 for Union Pacific's normalized net cash flow was derived as follows:

Component	Mr. Eyre's Estimate		
2007 Normalized NOI	\$1,600,000,000		
ADD Normalized Depreciation Expense	1,300,000,000		
ADD Deferred Income Tax (DIT)	160,000,000		
LESS Capital Expenditures (Reinvestment)	(1,608,000,000)		
LESS Disposed Property	(15,631,623,450)		
LESS Working Capital Increase	(30,475,000)		
Net Cash Flow (NCF)	<u>\$1,386,525,000</u>		

(i) 2007 Normalized NOI

Mr. Eyre used the same \$1,600,000,000 NOI estimate that was used by the Tax Division in its original assessment. The Tax Commission found that the Tax Division had derived its \$1,600,000,000 NOI estimate by using a "five-year current dollar average" for the past five years. However, Mr. Eyre's testimony on the derivation of his NOI estimate was less consistent.

In his deposition, Mr. Eyre first testified that he used a five-year current dollar average to determine Union Pacific's NOI. When it was pointed out to him that a straight average did not equal his selected \$1,600,000,000 NOI estimate, he testified that he just "eyeballed" all of the data to derive a trend to tie to his estimate.

In the appraisal report submitted at trial, Mr. Eyre asserted that his NOI estimate of \$1,600,000,000 "was based on [his] observation of the past five years' income history, relying on the last two years as being the most significant indicators." But when testifying, he asserted that he did not consider any of the data from the 2004 year in his analysis because it was anomalous. Specifically, Mr. Eyre alleged that the 2004 year was anomalous because he believed Union Pacific only recovered about 45% of its excess fuel charges that year through a fuel surcharge mechanism, and that the railroad was expected to be able to recover 90% of its excess fuel charges in 2006 and 100% thereafter. Consequently, Mr. Eyre testified at trial that he used a simple average of the 2005 and 2006 reported NOI amounts to derive the \$1,600,000,000 NOI estimate he used in his appraisal.

Mr. Eyre never analyzed the actual dollar impact of fuel surcharges on Union Pacific's historical NOI, nor did he adequately check source documents for the fuel surcharge percentages discussed in his testimony. Dr. Schoenwald, however, did analyze Union Pacific's actual fuel expenses and revenues for the five-year period and demonstrated that while Union Pacific under-recovered its fuel expense in 2004 by about \$233,000,000, this amount was more than offset by an over-recovery of fuel expenses in 2006 of about \$320,000,000. If Mr. Eyre based his NOI estimate on an average of 2005 and 2006 figures, his estimate would be biased upward.

Union Pacific did not view variability in NOI attributable to fuel surcharges as historically anomalous. Mr. Weber testified that the impact of fuel expenses through a surcharge mechanism is considered part of the typical business cycle for the railroad,

and that the amount of surcharge recoveries and STB restrictions on surcharge recoveries would be part of the business cycle for the railroad.

The evidence shows that Mr. Eyre did not independently validate data used, relying instead on Tax Commission data which he "tweaked." Nor did Mr. Eyre conduct any independent analysis of the identified anomalies, artifacts, or outliers in historical NOI, or use any statistical method to distribute or normalize their impact on operating income. Instead, Mr. Eyre excluded reported results from Union Pacific's operations in three of the five years preceding the lien date as anomalous outliers. To exclude data as anomalous is not normalization, and thus neither the underlying data used nor Mr. Eyre's derived NOI was normalized in any manner.

Moreover, in using only a two-year average to project future NOI, Mr. Eyre decreased his sample size of historical data, and thereby reduced the reliability of the trend analysis and his projection. The margin of variability or error in a trend projected using two data points is intuitively greater than where multiple data points are used.

In passing, the Court notes that Union Pacific prepared several exhibits that further demonstrated the inconsistencies in the Affected Counties' estimate of NOI. Had Mr. Eyre been consistent in his assumption that the railroad industry is cyclical, his net cash flows estimate would have been significantly lower. For example, in Trial Exhibit 46, Dr. Schoenwald demonstrated that the simple five-year average NOI for Union Pacific for the past five years was \$1,512,184,265 in current dollars, and that a linear trend analysis using a least squares method of all of the data would yield an NOI estimate of \$1,497,118,388. In Trial Exhibit 47, Dr. Schoenwald demonstrated that by using a blend of the five-year simple average and five-year weighted average of the historical data, the suggested NOI estimate would be \$1,515,554,872.

Accordingly, the estimated 2007 NOI of \$1,600,000,000 advanced by the Affected Counties was based on inaccurate data, subjectively selected and not properly

validated or recognizably normalized, employed in an internally inconsistent manner, and subject to embedded systematic error.

(ii) 2007 DIT

For his appraisal, Mr. Eyre used the Tax Division's deferred income tax estimate obtained from Union Pacific's books for 2006. He did not conduct a separate analysis of asset depreciation, and could not identify the component assets included in the estimate. Union Pacific presented credible evidence that Mr. Eyre's deferred income tax estimate improperly included items that were not related to Union Pacific's tangible property. Only \$103,374,000 of the reported 2006 DIT was associated with Union Pacific's operating property. The balance of the DIT was related to deferrals associated with non-property items, such as retirement benefits and other liabilities. Accordingly, Mr. Eyre's cash flow calculation was correspondingly overstated.

Moreover, Mr. Eyre's calculation of the DIT adjustment in the yield capitalization and DCF models is necessarily related to the amount of existing assets and replacement capital expenditures that are assumed in his models. Union Pacific demonstrated that, using Mr. Eyre's assumptions regarding replacement capital expenditures, the correct amount of DIT would actually be a negative \$186,000 rather than the positive \$160,000,000 used by Mr. Eyre. Moreover, as discussed below, the replacement capital expenditures assumed in Mr. Eyre's models were insufficient to sustain Union Pacific's fleets of owned locomotives and freight cars into the future.

(iii) Replacement Capital Expenditure (Reinvestment)

Mr. Eyre used a five-year weighted average of Union Pacific's historical capital expenditures for his replacement capital expenditures estimate of \$1,608,000,000, but testified that had Rule 62 not restricted him, he would have implemented a different approach. Regardless, the use of a five-year weighted average replacement capital expenditure raises several concerns.

First, in estimating NOI, Mr. Eyre ultimately used a two-year average of historical NOI. Matching a five year average with a two-year average lacks consistency.

Second, Mr. Eyre used the five-year average without analyzing whether Union Pacific's historical capital expenditures were adequate to maintain existing fleets of owned locomotives and freight cars. In fact, Mr. Eyre did not estimate the number of owned locomotives or freight cars that would need to be replaced in the future to maintain the fleets existing on the lien date, and evidence received at trial demonstrated that Union Pacific's fleets could not in fact be maintained with the five-year average replacement capital expenditure.

Third, the historical averaging approach ignores evidence that replacement capital expenditures made by Union Pacific had been depressed during the five-year period used. To maintain the hauling capacity of its fleets, Union Pacific will be required to make greater than average replacement capital expenditures in the future. Thus, the use of a five-year average does not take into account deferred replacement of owned locomotives and freight cars, and thus understates replacement capital expenditures.

Fourth, the cyclical nature or granularity of rolling stock replacements is more reliably captured by independent, detailed analysis of Union Pacific's fleets and replacement expenditures—similar to that performed by Dr. Schoenwald, and the use of a normalized expenditure amount sufficient to maintain capacity. Nevertheless, Mr. Eyre used a five-year average replacement capital expenditure amount that had not been validated and was in fact materially understated, constituting measurement and systematic errors which affect the reliability of both the calculation of normalized depreciation expense and NCF.

2.1.3 Conclusions regarding Net Cash Flow Calculations

The Net Cash Flow calculation presented by the Affected Counties was not factually persuasive. Mr. Eyre's testimony regarding his NOI estimate, the starting point in the calculation, was inconsistent and variable. The ultimate narrowing of his

sample size from five to the two years' data deemed most representative and anomaly-free raised issues of subjectivity and selection bias. As a long established business, Union Pacific's historical performance is the best indicator of future performance. The smaller the sample size, the greater the variation in projected values and observed values. In other words, the margin for error inherent in the use of a small sample size is generally greater than a larger size, especially here, where the basis for the trend analysis was the two more profitable years in a cyclical business. Moreover, the exclusion of other years' data as non-representative or anomalous outliers is not normalization.

Adjustments to NOI made by Mr. Eyre for depreciation expense and replacement capital expenditures were made less reliable by suspect data. Mr. Eyre's use of a five-year weighted average for replacement capital expenditures was inconsistent with his use of a two-year average in deriving NOI, and understated the expenditures necessary to maintain the capacity of Union Pacific's fleets. The lessened reliability of the understated replacement capital expenditures propagated to and was inherited by the depreciation and DIT adjustments made in calculating NCF. Accordingly, the Court concludes that Mr. Eyre's calculation of NCF is factually unsupported and unreliable as a result of accumulated errors in data and methodology.

On the other hand, Union Pacific presented a precise, persuasive, factually consistent derivation of NOI and NCF. Dr. Schoenwald used a more inclusive five-year average, separately and independently analyzed each sample year, and normalized the effect of extraordinary items, as explained in his appraisal report. In addition, Dr. Schoenwald's detailed analysis of fleet capacity provided a highly reliable estimate of replacement capital expenditures, and allowed a simpler derivation of NCF using tax depreciation.

2.1.4 Net Cash Flow Estimates Used In DCF Models

Dr. Schoenwald used his 2007 normalized net cash flow estimate in both his yield capitalization model and in the first year of his DCF model. In the DCF model,

Dr. Schoenwald adjusted several calculations by his 2.5% growth rate and determined net cash flow estimates for years 2008 through 2016 as identified in his appraisal report. His approach is consistent with generally accepted methodology for the DCF appraisal model.

While Dr. Schoenwald used consistent normalized net cash flow estimates in both his yield capitalization and DCF models, Mr. Eyre elected to use entirely different net cash flow estimates in his DCF model, relying upon aggressive and speculative cash flow assumptions contained in a draft long range plan prepared by Union Pacific Corporation. Using this data, Mr. Eyre derived a DCF model value estimate that was double his value estimate under the yield capitalization model.

The trial evidence showed that Mr. Eyre selected one of numerous iterations of a draft long range strategic plan as his data source. The justification given for the selection of the particular document, that Mr. Eyre's past experience allowed the conclusion that the document was important and used by Union Pacific's board for strategic planning, was subjective and offered no criteria to support the choice. In fact, the document selected by Mr. Eyre was a type used in business case analysis, where inputs are varied to determine the amount and degree of the impact on other observed variables.

Mr. Eyre used the revenue and expense information contained in the document without verifying the source or accuracy of the data. Evidence at trial showed that the document was an incomplete draft, contained numerous and obvious errors discernible upon cursory review, was never presented to Union Pacific's Board of Directors, and was not a strategic plan. Furthermore, as Mr. Eyre admitted, the document included total capital expenditures rather than replacement capital expenditures, thereby improperly capturing the value of non-taxable future assets, *i.e.*, assets not existing on the lien date. Mr. Eyre did not remove non-taxable future assets and intangible values from his DCF model, nor did he adjust the data he took from the draft strategic plan to account for the fact that the data applied to the parent company UPC rather than

Union Pacific. Accordingly, the evidence received does not support the reliability of Mr. Eyre's DCF model.

2.2 The Discount Rate "k"

"The CAPM formula is $k(e) = R(f) + (Beta \times Risk Premium)$, where k(e) is the cost of equity and R(f) is the risk free rate." *Id.* at R884-24P-62(5)(b)(i)(B)(II)(Bb).

The differences in the parties' discount or yield rates are not significant. Dr. Schoenwald derived a 10.282% discount rate and Mr. Eyre derived a 10.37% discount rate. Both followed Rule 62's preference of allocating at least 50% weight to CAPM in determining cost of equity estimates for their respective discount rates. *See Id.* at R884-24P-62(5)(b)(i)(B)(II)(Aa). Both assumed an industry capital structure of 75% equity and 25% debt, and their cost of debt numbers varied by only 0.17%.

Dr. Schoenwald placed Union Pacific's cost of equity at 12.45% by analyzing historical values for CAPM, using a twelve-month market rate average and a seven-teen-year average computation of beta. Mr. Eyre criticized this estimate by referring to Rule 62's preference that under CAPM, the risk free rate "shall be the current market rate on 20-year Treasury bonds" and that beta "should reflect an average or value-weighted average of comparable companies and should be drawn consistently from Value Line or an equivalent source." *Id.* at R884-24P-62(5)(b)(i)(B)(II)(Cc) & (Dd).

Mr. Eyre used three calculations to derive his 11.75% cost of equity estimate: historic period CAPM, supply side CAPM, and a three-stage dividend growth model (DGM). While Mr. Eyre followed the preferences of Rule 62 in his CAPM calculations, the weight of testimony showed that his use of DGM was inconsistent with generally accepted models in the appraisal community. DGM is a generally accepted model, which is similar to models used by the Surface and Transportation Board. DGM estimates a company's cost of equity by observing the dividend yield and the expected growth rate of the company. However, DGM and similar models include a terminal value calculation. Mr. Eyre failed to include a terminal value calculation,

causing his DGM estimates to become arbitrarily dependent upon the term of years selected. Had Mr. Eyre's DGM included a terminal value calculation, his DGM cost of equity estimate would have been approximately 14% and his resultant weighted cost of equity estimate would have been nearly identical to Dr. Schoenwald's estimate of 12.45%.

While Dr. Schoenwald did not strictly follow Rule 62's preferences for determining a risk free rate and beta in the derivation of cost of equity, Dr. Schoenwald sufficiently supported and proved the statistical reliability of his alternative method. In comparison with the methodological shortcomings of Mr. Eyre's three-part calculation, and the near identical result when corrected, Dr. Schoenwald's estimate for risk free rate, beta, cost of equity, and discount rate is more precise, accurate, and reliable than Mr. Eyre's estimates.

2.3 The Growth Rate "g"

Mr. Eyre selected a conservative rate of 1.5% for a growth rate based upon historical trends of Union Pacific and the railroad industry. Dr. Schoenwald selected a higher rate of 2.5%, even though a higher growth rate would yield a greater unitary valuation for Union Pacific. Dr. Ifflander, however, suggested that both rates were too low given the railroad industry's growth trends, but failed to provide sufficient quantitative evidence to support a higher growth rate.

Neither the Affected Counties nor the Tax Commission disputed the use of Dr. Schoenwald's 2.5% growth rate.

2.4 Non-Capitalized Leased Property

Union Pacific leases a significant portion of its locomotives and freight cars. The leases are an alternative to conventional purchase financing as a means of acquiring the use of operating property. Leases are usually categorized as either capital leases or operating leases under generally accepted accounting principles. The lessor essen-

tially acquires all rights of ownership in assets under capital leases, and so such assets are capitalized and included on the company's balance sheet, depreciated, and treated as if owned. Assets under operating leases are not treated as owned, and are not capitalized or depreciated, and the rents are expensed.

The parties did not dispute the financial statement treatment of Union Pacific's capital leases, and Dr. Schoenwald and Mr. Eyre agreed that no adjustment needed to be made to their respective system valuations for the value of operating property under capital leases. Dr. Schoenwald and Mr. Eyre also agreed that the value of Union Pacific's non-capitalized property under operating lease was not captured in their income indicator approach valuations, as rents were expensed and the properties were not depreciated. Therefore, the value of property subject to operating leases needed to be separately calculated and added to Union Pacific's system valuation. Dr. Schoenwald and Mr. Eyre disagreed, however, regarding the amount and method of valuing the property.

The generally recognized method of capturing the value associated with leased operating property in income indicator approach valuations is to treat the property as if owned by (1) disallowing the rent expense originally taken for the leased property, (2) allowing a depreciation expense, (3) recalculating the tax obligation to account for prior adjustments, and (4) making an appropriate allowance for the capital expenditures that would be required to maintain and replace the property.

Dr. Schoenwald used a five-year average to calculate lease payments, rather than the single-year preceding the lien date used by Mr. Eyre. Since both the yield capitalization and DCF models add back the incremental income for the leased operating property that was not captured in the normalized net cash flow estimate, and since Dr. Schoenwald used a five-year average in deriving estimated normalized net cash flow, the five-year average used to calculate lease payments was necessary for internal

consistency between the incremental income estimate and the NCF estimate calculations.

Dr. Schoenwald adjusted for non-capitalized lease expense by first deducting related depreciation. Next, he determined that portion of the lease rentals which should be added back to income (and therefore net cash flow) for the income indicator approaches if the operating property had been purchased and owned. The tax treatment of owned assets differs from that of leased assets, since lease payments are fully deductible in determining taxable income, whereas the deductibility of expenses associated with owned assets will vary according to Union Pacific's average cost of capital and capital structure. The add-back of lease payments must be adjusted accordingly to make the treatment of identical property, whether lease or owned, the same for income indicator approach valuation purposes. Using this method and incrementing by the growth factor "g", Dr. Schoenwald estimated the 2007 value of Union Pacific's leased operating property at \$1,392,600,000.

Trial evidence demonstrated that Dr. Schoenwald's method to account for Union Pacific's leased operating property is consistent with the preferred method under Rule 62, and is the same method (1) identified in the test of the 1989 WSATA Handbook, (2) used in the sample railroad appraisal in the 1989 WSATA Handbook, (3) used by Mr. Goodwin and Dr. Ifflander in their 1984 appraisal of Union Pacific's property for Utah, (4) used by Mr. Eyre in 1998 when he was the Assistant Director of the Tax Division, and (5) used by the 30-35 unitary states in the country in which Dr. Schoenwald has worked.

On the other hand, Mr. Eyre testified that the most accurate way to capture the full fair market value of leased operating property was to derive a so-called "lessor's interest" in the property by calculating the present value of the future net lease payments to the lessor, then adding a terminal value using a DCF model to capture the

value of the fee simple interest of the property. Using this approach, Mr. Eyre estimated the 2007 value of Union Pacific's leased operating property at \$3,951,816,000.

Mr. Eyre's method deviated from Rule 62's preferred methodology without sufficient justification. Rather than capturing the value of leased property by treating it as if owned by Union Pacific, Mr. Eyre applied a discounted cash flow income model to value the property as owned by the lessor. In so doing, Mr. Eyre created a new value component, "lessor's interest," which from the trial evidence does not appear supported in unitary appraisal methodology and ignores the different tax and financial accounting interests of lessor and lessee. Stated another way, the benefit to the lessor of the rental payments is different from the benefit of the use of the property to the lessee, and the value to the lessor does not necessarily equal the value to the lessee. Otherwise, there would be no business reason for the lease transaction.

Also, the approach taken by Mr. Eyre and advocated by the Affected Counties relies on rental payments to the lessor and thereby creates the lessor's interest in the value of the leased property as a separate, non-integrated component part of Union Pacific's operating properties contrary to the core principles of unitary appraisal methodology. See T-Mobile USA, Inc., 2011 UT 28, ¶5 n.3 ("A unitary appraisal involves the appraisal of [all] property that operates as a unit across county or state lines."); see also Utah Admin. Code R884-24P-62(d)(i)(A) ("Unitary properties include ... all property that operates as a unit across county lines, if the values must be apportioned among more than one county or state[.]").

Finally, Mr. Eyre's lessor's interest failed to allow for any replacement capital expenditures necessary to maintain the leased operating property and did not account for the replacement of essential rolling stock that would be returned to the lessors at the end of their respective leases. In fact, Dr. Schoenwald demonstrated that under Mr. Eyre's approach to valuing leased operating property, the number of Union Pacific's leased locomotives and freight cars would reduce to zero over a twenty-four year

period. The terminal depletion is inconsistent with maintaining either income or projected growth in income, and is an error that further erodes confidence in the income indicator valuations advanced by the Affected Counties.

Mr. Eyre's \$3,951,816,000 leased operating property estimate is \$2,559,216,000 or 284% greater than Dr. Schoenwald's estimate, resulting in a materially greater add-back to discounted cash flow values in his income indicator approach valuations and a material inflation of computed system value.

2.5 Conclusions regarding Income Indicator Valuations

The income indicator approach valuations of Union Pacific's operating property begin with an estimate of normalized net cash flow for the year beginning with the January 1, 2007 lien date. The Court has previously concluded that the trial evidence does not support the income indicator approach valuations advanced by the Affected Counties and supported by the Tax Commission. Mr. Eyre's \$1,386,525,000 estimate of expected 2007 normalized NCF, used in his yield capitalization method valuation, was subject to a significant lack of precision, variability, and internal and systematic inconsistencies, and was materially overstated. Consequently, the resulting \$19,583,439,450 valuation inherited the same lack of precision, variability, and inconsistencies, and was materially overstated. Although the parties' values for the discount and growth rates differed, the differences contributed less to the accuracy and reliability of the valuation than the errors inherent in Mr. Eyre's derivation of NCF.

Moreover, Mr. Eyre did not use his derived NCF in his DCF method valuation, instead relying on different income statement amounts taken from one of many iterative Union Pacific draft strategic planning documents, which documents presented obvious "what if" test cases and were not intended to be accurate or consistent in all respects. The resulting valuation of \$39,365,816,000 could not have greater accuracy than the source data, and was therefore unsupported by the evidence and lacking in accuracy or reliability.

Mr. Eyre's adjustment for leased operating property using a lessor's interest approach was also not supported by the evidence, and was inconsistent with unitary valuation principles and with Rule 62.

Each computed component value used in both Mr. Eyre's yield capitalization and DCF appraisal methods was subject to a lesser degree of precision and greater variability or uncertainty. The lack of precision and certainty in component values accumulated in the derivation of the system valuation and materially reduced the accuracy and reliability of the result.

Looked at another way, if one assumed that Mr. Eyre's income indicator approach system valuations were accurate and reliable—valuations in which a high level of confidence might be placed, was the evidence offered in support of each value used and each amount computed that which would be expected given the initial assumption? From errors in precision in data employed to systematic errors relating to data selection and methodology, the Court must conclude that the evidence actually received was not that which was expected or consistent with the presumption of the correctness of Mr. Eyre's valuations. Accordingly, the evidence at trial preponderates against the reliability of both income indicator approach system valuations advanced by the Affected Counties and supported by the Tax Commission, and therefore the Court has little confidence in the accuracy and reliability of the valuations.

The Court must conclude differently regarding Union Pacific's income indicator approach valuations. Dr. Schoenwald's estimate of 2007 net cash flow used a larger sample size, was normalized for so-called outlier events, precisely treated the effect of income tax and replacement capital expenditures, and was internally consistent. Dr. Schoenwald also used the same normalized net cash flow, discount rate, growth rate, and leased operating property estimates in both his yield capitalization valuation and the first year of his DCF method valuation. Moreover, Dr. Schoenwald's approach to valuing Union Pacific's leased operating property was consistent with his

normalized net cash flow estimate, and was also consistent in addressing the cyclical nature of the railroad industry.

Dr. Schoenwald's derivation of each component of his income indicator approach valuations was supported by the weight of the evidence, without material error, and subject to greater precision, and was therefore more accurate and reliable individually and in the resulting valuations. Although Rule 62 identifies the yield capitalization approach as the preferred valuation method in most circumstances, Union Pacific took the position that Dr. Schoenwald's DCF method provided the most accurate estimate of Union Pacific's tangible operating system property, since reliable cash flow estimates could be established. *See* Utah Admin. Code R884-24P-62(5)(b)(ii). Combined with the higher 2.5% growth rate "g" used, Dr. Schoenwald's DCF system valuation was also higher than his valuation obtained using the yield capitalization method.

The Court, therefore, finds that Dr. Schoenwald's DCF approach valuation of \$12,842,900,000 is the most accurate and reliable income indicator approach estimate of Union Pacific's tangible operating property for purposes of Utah's *ad valorem* property taxation.

3. STOCK AND DEBT VALUATION APPROACH

The stock and debt method is an alternative valuation methodology that equates the aggregate value of all publically traded stock of a company or market cap (average share price times shares outstanding) with the company's value. It is based on the basic balance sheet formula that assets equals liabilities plus stockholders equity. The method will necessarily reflect investor perceptions, expectations, and other subjective market factors that drive stock price, and which may be only loosely correlated to the value of a business's assets. Additionally, the assets valued using this approach

include both tangible and intangible assets, and the latter must be valued and removed to derive a value for tangible properties.

Dr. Schoenwald and Mr. Eyre disagreed regarding the applicability of the stock and debt method in the valuation of Union Pacific's tangible operating property. Union Pacific did not present a stock and debt valuation of its tangible assets. Dr. Schoenwald opined that such valuations typically understate or do not reliably capture the value of intangible property and, therefore, given the extreme difficulty in accurately removing values for nontaxable intangible properties that are captured, the method generally does not offer useful valuation estimates for railroad properties. *See Id.* at R884-24P-62(4)(b)(ii) ("[T]he stock and debt method typically capture[s] the value of intangible property at higher levels than other methods").

The Affected Counties offered a stock and debt method valuation. As Union Pacific does not have publicly traded stock, the stock price of its parent company Union Pacific Corporation (UPC) was used. Mr. Eyre first allocated a portion of UPC's shareholder's equity to Union Pacific, then added to the shareholder's equity the amount of UPC's debt attributable to Union Pacific and the amount of Union Pacific's known long-term debt and current liabilities, and subtracted Union Pacific's current assets (cash and assets readily convertible into cash) to derive a value for Union Pacific's non-cash assets. Finally, Mr. Eyre adjusted this value by an operating property percentage (calculated percent of assets that constitute operating property), and added the value of Union Pacific's leased operating property, to arrive at a system value of Union Pacific's tangible operating property of \$34,492,740,358.

Mr. Eyre made no reductions for intangible property. Rather, Mr. Eyre testified that he could not ascertain, through a review of the company's financial statements, whether Union Pacific had any capitalized intangible assets. Consequently, he concluded that no reductions for intangible property should be made to his stock and debt valuation. *But see Id.* at R884-24P-62(4)(a) ("The value attributable to intangible prop-

erty must, when possible, be identified and removed from value when using any valuation method and before that value is used in the reconciliation process.").

Union Pacific rebutted Mr. Eyre's statements concerning balance sheet intangible assets, identifying \$50,000,000 in capitalized intangibles. Regardless, and as discussed below, nothing in Utah law or accepted appraisal methodology limits the adjustment for intangible property to capitalized properties. Further, Dr. Schoenwald also pointed out that Mr. Eyre failed to make adjustments associated with future growth assets that did not exist on the lien date and with the liquidity of UPC's stock. Finally, the extraction of a market capitalization value was based on UPC's 10-K and shareholder's report for a single year (2006). The subjective reliance on one year's financial reporting figures in a cyclical industry increased the likely variance, and lessened the overall precision and reliability, of the derived stock and debt method system valuation for Union Pacific.

4. RECONCILIATION OF DERIVED VALUATIONS

To arrive at the Utah taxable value of Union Pacific's tangible operating property, a correlated system value must first be derived by means of one or more valuation methods, the value of any intangible property removed from the system value, and further adjustments made for the Utah Allocation Factor, the value of any locally assessed property, and the 4-R Act Deduction.

4.1 Correlated System Value

Dr. Schoenwald for Union Pacific and Mr. Eyre for the Affected Counties derived the following correlated system values as of the January 1, 2007 lien date:

	Dr. Schoenwald's Appraisal:		Mr. Eyre's Appraisal:	
Valuation Methodology	Weight	Amount	Weight	Amount
Cost/Market Approach			0%	\$ 37,547,511,899
Yield Cap Income Indicator	0%	\$ 11,648,300,000	96%	\$ 19,583,439,450
DCF Income Indicator	100%	\$ 12,842,900,000	2%	\$ 39,365,816,000
Stock and Debt Method			2%	\$ 34,492,740,358
Correlated System Value		\$ <u>12,842,900,000</u>		\$ <u>20,000,000,000</u>

Dr. Schoenwald placed no reliance on the lower yield capitalization valuation in his reconciliation, as he believed that his DCF model provided the most accurate estimate of Union Pacific's system value.

Mr. Eyre, on the other hand, derived a \$19,583,439,450 system value estimate for Union Pacific using the yield capitalization method, a \$39,365,816,000 estimate applying the DCF method, and a \$34,492,740,358 estimate using the stock and debt method. Mr. Eyre placed 96% weight on his yield capitalization valuation in his reconciliation because that method is preferred under Rule 62. Mr. Eyre merely indicated that he allocated 2% weight to his DCF method valuation due to its foundation on Union Pacific's long-range strategic plans, and the remaining 2% weight to his stock and debt method valuation. However, Mr. Eyre failed to support the weight allocations by an objective explanation of "the availability, quantity, and quality of data, as well as the strength and weakness of each value indicator" considered in his correlation, or the appropriateness of the weights to either the railroad industry or to Union Pacific. See Id. at R884-62(5)(d). Without sufficient credible support for his weight allocations in evidence, Mr. Eyre's allocations appear subjective and his derivation of Union Pacific's correlated system value is less precise, accurate, and reliable.

Further, concerns with the precision of data used by Mr. Eyre and the presence of systemic errors in the application of the two income indicator valuations and the stock and debt method valuation necessarily propagate to the correlated system value. The value indicator components to be reconciled lack consistency, with two-year and

five-year averages used in the income indicator approach valuations and a single year's data in the stock and debt approach valuation.

But the substantially higher DCF method and stock and debt method valuations do not substantially affect correlated system value or, ultimately, Utah taxable value. The obvious driver of Mr. Eyre's correlated system value is the \$19,583,439,450 yield capitalization approach valuation, given 96% weight, which is 152% greater than Dr. Schoenwald's correlated system valuation, which gave 100% weight to his DCF method valuation. In view of the Court's lack of confidence in the accuracy and reliability of Mr. Eyre's yield capitalization method valuation, the Court can place no greater confidence in the Mr. Eyre's correlated system value.

Accordingly, the Court finds that Union Pacific's offered correlated system value of \$12,842,900,000 is, on the evidence presented, the more accurate and reliable.

4.2 Deduction for Intangible Property

4.2.1 Constitutional and Statutory Framework

"Intangible property' means ... property that is capable of private ownership separate from tangible property[.]" See Utah Code Ann. § 59-2-102(20)(a). "The Legislature has chosen to exempt intangible property from taxation and instead to tax the income derived from such property." T-Mobile USA, Inc., 2011 UT 28, ¶29 (citing Utah Code Ann. § 59-7-101(34)(b) ("'Utah taxable income' includes income from tangible or intangible property located or having situs in this state[.]")). Accordingly, "[b]ecause the Legislature chose to tax the income from intangible property, it could not tax the intangible property itself." Id.

Since intangible property is exempt from assessment and property taxation under Utah law, its value must be identified and removed from the correlated system value before the value is used in the reconciliation process. *See* Utah Code Ann. § 59-

2-1101(3)(a)(vii); see also Utah Admin. Code R884-24P-62(3) & (4)(a); WilTel, Inc., 2000 UT 29, ¶28.

Generally, an intangible asset is exempt from property taxation where arising from contractual or other legal rights, such as franchises, licenses, trade names, copyrights, and patents. The intangible asset must also be separable, such that it can be sold, transferred, or otherwise alienated.

Dr. Schoenwald did not independently appraise Union Pacific's intangible property. Rather, Dr. Schoenwald relied on Mr. Reilly's valuations of two classes of intangible property—internally developed custom computer software and trained and assembled workforce of locomotive engineers, and deducted these amounts from the system value he derived for Union Pacific.

Mr. Eyre reviewed Union Pacific's annual return to the Tax Division to determine whether an adjustment to Union Pacific's system value for exempt intangible property should be made. Mr. Eyre testified that he found nothing to indicate that Union Pacific had capitalized any intangible property. Mr. Eyre, therefore, concluded that it would be improper to make an adjustment to Union Pacific's system value for exempt intangible property. Nevertheless, he conceded at trial that a company's custom computer software is an intangible property for appraisal purposes.

Mr. Reilly's appraisal of Union Pacific's custom computer software and trained and assembled workforce of locomotive engineers are examined in turn.

4.2.2 Custom Computer Software

Union Pacific's internally developed, custom computer software consists principally of source code developed for Union Pacific's Transportation Control System, legacy systems, end user systems, and client/server systems. Other types of custom software were identified, but not included in Mr. Reilly's valuation as lacking a sufficiently complete and detailed system metric from which accurate and reliable values could be established.

(i) Union Pacific's Valuation

Mr. Reilly used a replacement cost "as is" valuation approach, stating there was insufficient data to obtain accurate and reliable values using the income or market valuation approaches. Mr. Reilly concluded that the fair market value of Union Pacific's custom computer software was \$1,143,000,000.

Mr. Reilly testified that the custom computer software is necessary to Union Pacific's operations. Although most Class I railroads use similar computer software, the software is not an off-the-shelf product, nor would comparable software in use by other Class I railroads necessarily be fungible with that of Union Pacific. A hypothetical purchaser of the operating unit would also want to acquire Union Pacific's custom computer software, without which the acquired assets could not be operated.

Union Pacific's custom computer software consists of programs or instructions that direct operations within an integrated circuit. It is expressed in a machine-readable language or code that constitutes a writing having certain legal rights, typically copyright, patent, and trade secret rights. As such, computer software may be classified as intellectual property. It is capable of identification and private ownership separate from Union Pacific's tangible property. It is also transferable. Moreover, computer software as intellectual property is within the class of enumerated exempt intangible property under Utah statutory law. See Utah Code Ann. § 59-2-102(20)(a)(ix) & (x); see also Cache County, 922 P.2d at 768 (holding that computer software that is customized rather than "canned" or mass produced is intangible property, as the costs associated with the software are primarily for personal service rendered to customize the program). Therefore, on the facts received at trial Union Pacific's custom computer software is exempt intangible property for purposes of property taxation under Utah law. Where possible it should be separately valued and removed from Union Pacific's system value.

Union Pacific presented a valuation of its custom computer software prepared by Mr. Reilly. Mr. Reilly used two replacement cost models: the Constructive Cost Model (COCOMO), and the KnowledgePLAN Model (KPLAN). The Affected Counties and Tax Commission presented no competing valuation of Union Pacific's custom computer software, or any other evidence or expert testimony that the implementation of a different methodology would have resulted in a more precise, accurate, and reliable valuation of the computer software.

The COCOMO model estimates the amount of effort required to recreate the computer software, taking into consideration the size of the programs, the characteristics of the programs, and the environment in which they are developed. The COCOMO model defines an effort equation that estimates the number of personmenths necessary to develop a software product as a function of the number of delivered source instructions in the system. The KPLAN model estimates the development costs associated with a particular software project based upon various parameters including project classification, complexity, size, language, and other project attributes. Under the KPLAN model, the system development costs are calculated based on the estimation of the number of person-months necessary to complete the software product. Mr. Reilly additionally adjusted for physical, functional, technological, and economic obsolescence to ensure that his final appraised value was fair market value.

Mr. Reilly also testified that his valuation of Union Pacific's custom computer software excluded licenses to code libraries and other stock objects that allowed Union Pacific's software to be developed and function, the cost of which would typically be expensed.

(ii) Capitalization Requirement

Mr. Eyre testified that no adjustment to Union Pacific's system value was necessary for the value of its custom computer software because it was not capitalized. Accordingly, the costs associated with its development should be considered operating

expenses which were accounted for and deducted in calculating Union Pacific's NOI. Contrary to Mr. Eyre's statements, documentary evidenced showed that Union Pacific had capitalized costs of approximately \$50,000,000 relating to its computer software. Furthermore, Mr. Eyre apparently misconstrues Mr. Reilly's use of system development costs to value Union Pacific's computer software under either replacement cost model by failing to recognize the difference between operating expenses, which are part of the calculation of NOI, and original development costs, which may or may not be capitalized.

However, the capitalization of costs relating to intangible property *per se* is not a prerequisite to either the Constitutionally or statutorily required removal of intangible properties from unitary property prior to assessment. Capitalization is driven and governed by financial, regulatory, and tax reporting requirements. What is capitalized and subsequently amortized may bear little relation to the fair market value of the asset. The owner of custom computer software has legal rights which may be separately identified and transferred whether or not development costs are capitalized.

Moreover, the net cash flow that is ultimately derived for Union Pacific is attributable to both its tangible and intangible property, including custom computer software. Both Dr. Schoenwald and Mr. Eyre used Union Pacific's entire cash flow stream in their respective income indicator valuations, and for that reason captured the full value of Union Pacific's intangible property in their respective valuations. Therefore, Utah law requires the removal or the value of Union Pacific's custom computer software from the correlated system value as exempt intangible property, whether or not it is capitalized.

Mr. Eyre also cautioned that the removal of exempt intangibles should not destroy the operating unit, and that exempt intangibles should have the characteristics of property so that they can be separated and valued apart from the unit. This confuses property and attributes of property, such as going concern value or competitive advantage. It also ignores intellectual property, which may have a physical representation or not, while still possessing the key attributes of owned property, namely, identifiability, separability, and transferability. Custom computer software is capable of separate identification, ownership, and valuation, as well as transfer. Its expressed code can be identified, written, and stored, and rights in the code, including intellectual property rights, transferred by sale or license.

(iii) Annual Replacement or Maintenance Costs

Mr. Eyre opined that because Union Pacific had not capitalized its computer software, the costs associated with its development should be considered operating expenses which were accounted for and deducted in calculating Union Pacific's NOI. To deduct both the value of the software and its annual maintenance and replacement cost would essentially double count, and therefore understate system value.

Mr. Eyre is correct to the extent that the cost of developing computer software is generally treated as an operating expense unless capitalized under financial or tax accounting rules. As stated previously, however, there is no requirement that the historical cost of an intangible property be capitalized in order to qualify as an exempt property for purposes of property tax, nor does historical cost always equal the replacement cost of the intangible property. Furthermore, as Dr. Schoenwald and Mr. Reilly both testified, there is no duplication as the costs included in the net cash flow streams utilized by Dr. Schoenwald and Mr. Eyre in their respective income indicator approach valuation models are only those costs associated with the annual replacement or maintenance of Union Pacific's computer software, not the software's development or replacement cost. The costs associated with Mr. Reilly's replacement cost valuation of Union Pacific's software are derived as part of the valuation methodology and are not reflected in annual replacement or maintenance costs.

(iv) Less Expensive Labor

The Affected Counties also challenged Mr. Reilly's use of COCOMO and KPLAN by arguing that the custom computer software could have been developed using a less expensive labor force. However, no evidence was submitted to support the argument for a less expensive labor force or to refute the accuracy and reliability carried by the weight of the evidence presented for Mr. Reilly's software valuation.

(v) Other Criticisms

The Court rejects the argument made by the Affected Counties and the Tax Commission that the valuation approach used to derive a value for Union Pacific's intangible property generally, and custom computer software specifically, must be the same as that used to derive a value for the tangible property. Here, the argument is that since Dr. Schoenwald used the DCF method to derive system value, Mr. Reilly's replacement cost approach to valuing the deduction for intangible property was an improper mixing of values obtained using difference valuation approaches. Whether the appraisal relies on a market, cost, or income approach, the result is a value expressed in dollars, and not some other unit of measure, such as "market dollars," "cost dollars," or "income dollars." Fair market value, however derived, is expressed in a single unit of measure, dollars, and there is no impermissible combination of dissimilar values.

The Court also rejects as specious the criticism that Dr. Schoenwald should not have used and relied on Mr. Reilly's cost valuation of Union Pacific's computer software in adjusting his correlated system value, because Dr. Schoenwald did not himself do the analysis. Dr. Schoenwald did testify that he reviewed and was sufficiently familiar with Mr. Reilly's appraisal to be confident in its conclusions. Moreover, the reliance on or use of the data, analysis, or conclusions of third parties does not appear to

be an uncommon practice in appraisals, as Mr. Eyre relied on and used portions of the Tax Division's work.

Finally, the Affected Counties and the Tax Commission argued that Mr. Reilly's appraisal should be disregarded as he improperly considered "value in use" rather than "value in exchange." The Court rejected this argument in denying a motion in limine filed prior to trial. To reiterate, while Mr. Reilly's methodology in determining his intangible property valuations involved assumptions pertaining to value in use, his ultimate conclusions are based upon an exchange between a willing buyer and a willing seller, *i.e.*, fair market value. See Utah Code Ann. § 59-2-102(12); see also Utah Admin. Code R884-24P-62(2)(b).

4.2.3 Assembled Workforce

The second type of property identified in Mr. Reilly's appraisal of Union Pacific's intangible properties is its trained and assembled workforce of locomotive engineers. While Mr. Reilly valued only Union Pacific's locomotive engineers in his appraisal of Union Pacific's assembled workforce, he testified that Union Pacific's locomotive mechanics, brakemen, signalmen, accounting department, legal department, and management were assets that could also be included within a valuation of the assembled workforce. However, Union Pacific does not seek any additional contributory value from these other employees in its workforce valuation.

Union Pacific had 9,847 trained locomotive engineers as of the lien date. While Mr. Reilly testified that Union Pacific's employees are both at will and subject to union contract, he provided contradictory deposition and trial testimony regarding whether Union Pacific could legally lease its employees and the effect of the union contract on the transfer or exchange of its union employees. He also conceded that transactions involving the transfer of a company's workforce are unusual.

While Union Pacific cited cases in which trained and assembled workforce was found to be an amortizable intangible asset, and also identified states in which the value of assembled workforce can be excluded from a company's property tax base, the Court is not persuaded that Utah law supports similar treatment. Most of the legal precedent arose in the context of mergers and acquisitions, and addresses the tax and purchase accounting treatment of assembled workforce apart from goodwill. Based on the facts presented at trial, the Court finds that Union Pacific's trained and assembled workforce of locomotive engineers fails the primary "ownership separate from tangible property" test under Utah law. See Utah Code Ann. § 59-2-102(20)(a).

To begin, Union Pacific has not offered persuasive evidence to establish the ordinary attributes of ownership in its assembled workforce. While Union Pacific can identify its locomotive engineers and possibly point to a bundle of rights and expectations under employment law or contract (none of which is in the trial record), there is no evidence of the transferability of the workforce of locomotive engineers or any such rights or expectations. In fact, the Court finds the concept of the ownership and transfer of a workforce separate and independent of the training, skills, experience, and knowhow embodied in actual people to be incongruous. *See T-Mobile USA, Inc.*, 2011 UT 28, ¶23 n.8 ("An intangible asset can be recognized apart from goodwill if (1) control over the future economic benefits of the asset results from contractual or other legal rights or (2) it is capable of being separated or divided and sold, transferred, licensed, rented, or exchanged.") (Internal quotations omitted).

Moreover, assembled workforce is not identified in the nonexclusive list which follows the definition of intangible property in the Utah Code, nor does the evidence show that any similarity or affinity in fact between the properties or attributes of an assembled workforce and those common to the listed properties. *See* Utah Code Ann. § 59-2-102(16)(a)-(b) & (20). A workforce is not cash or its equivalent, or evidence of ownership or other rights such as stock or bonds, or contract rights such as franchises or licenses, or intellectual property such as trade names, copyrights, or patents.

Considered in light of the evidence, assembled workforce does not fall within any existing class of exempt intangible property. It has more in common with accounting goodwill, which under Utah law usually refers to acquired goodwill "that is reported as goodwill on the books and records ... of a taxpayer ... for financial reporting purposes." *Id.* at § 59-2-102(16)(a)(i). It includes "the ability of a business to ... generate income ... that exceeds a normal rate of return on assets" or "obtain an economic or competitive advantage," although Union Pacific has been capital inadequate throughout the periods averaged. *Id.* at § 59-2-102(16)(a)(ii). It does not include "intangible property ... described in Subsection [59-2-102](20)(a) or (b)" or "the enhancement or assemblage value specifically attributable to the interrelation of the existing tangible property in place working together as a unit." *Id.* at § 59-2-102(16)(c)(i) & (iv).

Accounting goodwill also includes "a company's customer base, customer service capabilities, presence in geographic markets or locations, **nonunion status**, **strong labor relations**, **ongoing training programs**, **and ongoing recruitment programs**." *T-Mobile USA*, *Inc.*, 2011 UT 28, at ¶33 n.15 (emphasis added). The value of a company's going concern "stems from the synergies of the net assets of the business[.]" *Id.* at ¶24 n.11 (Internal quotations omitted).

Taking the factual description received in evidence together with the statutory and decisional framework, Union Pacific's trained and assembled workforce of locomotive engineers is not tax-exempt intangible property because it fails the test of ownership separate from that of tangible property, is not transferable, does not arise from contract or legal rights, and does not appear in or share characteristics with listed types of exempt intellectual property. It is also not accounting goodwill, nor should it be separately valued apart from accounting goodwill. Accordingly, it is not necessary to value or deduct any value for Union Pacific's trained and assembled workforce.

4.3 Valuation of Locally Assessed Vehicles

The final issue in determining Union Pacific's tangible operating property for ad valorem property taxation pertains to the value of Union Pacific's locally assessed commercial motor vehicles. Both the Utah Code and Rule 62 provide that property which does not contribute to the income of the taxpayer, such as registered motor vehicles, should be removed from the state-allocated value and be assessed separately by local county assessors. See Utah Code Ann. § 59-2-201(5); see also Utah Admin. Code R884-24P-62(4)(c). Both Union Pacific's and the Affected Counties' system values capture the value of Union Pacific's commercial motor vehicles, and an additional adjustment must be made to remove the value of the vehicles. Dr. Schoenwald and Mr. Eyre valued Union Pacific's commercial motor vehicles at \$2,014,500 and \$3,615,070 respectively.

The Tax Commission assesses and collects property taxes on commercial motor vehicles at the time the vehicles are originally registered with the State or upon their annual renewal. See Utah Code Ann. § 59 2 201(2). The taxes assessed against these vehicles are based upon the age of the vehicles, arguably a cost less depreciation approach.

A precise appraisal of Union Pacific's motor vehicle fleet using a cost or market approach was not performed by either Dr. Schoenwald or Mr. Eyre, nor would the benefits of such an appraisal exceed its costs given that the fleet value is inconsequential compared to the Utah market value of Union Pacific's operating property.

Dr. Schoenwald accepted the use of a market-to-book ratio approach, while observing that more rigorous and precise but costly methods existed. Using this approach, Dr. Schoenwald calculated the value of Union Pacific's commercial motor vehicle fleet by dividing his \$11,129,900,000 adjusted system value by the Tax Division's \$37,543,000,000 HCLD cost estimate, and then multiplying the \$6,795,244 vehicle net book value by the quotient.

Mr. Eyre employed a similar approach, multiplying the total net book value of the vehicles by a market-to-book ratio determined using his valuation amounts.

Neither Dr. Schoenwald nor Mr. Eyre prepared an alternative valuation to the simple market-to-book approach valuation. Accordingly, the weight of the evidence at trial supports the use of a market-to-book approach for the valuation of Union Pacific's commercial motor vehicles. Just as the Court has accepted the accuracy of Union Pacific's proposed system valuation, for consistency it will accept Dr. Schoenwald's use of the Tax Division's HCLD cost estimate as the appropriate denominator, while correcting the numerator used. The Court has concluded that Union Pacific's trained and assembled workforce is not a tax-exempt intangible property. Therefore, the valuation of Union Pacific's assembled workforce that Dr. Schoenwald deducted from his correlated system value must be disallowed before a market-to-book ratio calculation is made. Accordingly, by dividing Dr. Schoenwald's adjusted system value, without deduction for the value of Union Pacific's assembled workforce, by the Tax Division's HCLD cost estimate, and then multiplying the result by the net book value of Union Pacific's commercial motor vehicles, the Court finds from the weight of the evidence presented that a more accurate valuation of the motor vehicles is \$2,117,670 $((\$11,129,900,000 + \$570,000,000) / \$37,543,000,000) \times \$6,795,244 = \$2,117,670).$

4.4 Utah Taxable Value

Having found Union Pacific's correlated system value and custom computer software valuation to be the more accurate and reliable from the evidence presented, having corrected the calculation of a value for commercial motor vehicles, and having applied other required adjustments, the Court determines the Utah Taxable Value of Union Pacific's tangible operating property to be \$340,719,960, calculated as follows:

Correlated System Value	\$ 12,842,900,000		
LESS Computer Software	(1,143,000,000)		
Adjusted System Value	\$ 11,699,900,000		
TIMES Utah Allocation Factor	3.09%		
Utah Market Value	\$ 361,526,910		
LESS Locally Assessed Vehicles	(2,117,670)		
Utah Assessment	\$ 359,409,240		
LESS 4-R Act Deduction Factor	5.20%		
UTAH TAXABLE VALUE	\$ 340,719,960		

IV. CONCLUSION, DISPOSITION AND ORDER

The Court concludes that the parties are subject to its jurisdiction.

Based upon the methodologies and values deemed proven and therefore accepted by the Court or stipulated by the parties, the Court concludes that Union Pacific has met its burden of establishing by a preponderance of the evidence the fair market value of Union Pacific's tangible operating property that is subject to *ad valorem* property taxation in the State of Utah as of the January 1, 2007 lien date, excepting the deduction for trained and assembled workforce of locomotive engineers and a consequent correction to the value of Union Pacific's commercial motor vehicles. The Court declined to accept the deduction for assembled workforce based on the evidence at trial, which demonstrated that assembled workforce was not explicitly named as an intangible property under Utah law, did not satisfy the primary test used to determine intangible property, and had attributes inconsistent with the attributes of enumerated classes of intangible properties.

The Affected Counties did not meet its burden of proof regarding the fair market value of Union Pacific's property, or demonstrate Union Pacific's proposed valuation to be incorrect, inaccurate, or unreliable in whole or in part.

Based upon the foregoing, IT IS HEREBY ORDERED that the Tax Commission use a \$340,719,960 fair market value for Union Pacific's tangible operating prop-

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erty within the State of Utah in determining the *ad valorem* property tax for Union Pacific as of the January 1, 2007 lien date.

All other issues have been resolved by the Court pursuant to its Findings of Fact and Conclusions of Law. This is the Court's final order in this matter; no separate order need be circulated, submitted, or entered.

Date signed: April 30, 2013.

DISTRICT COURT JUDGE JOHN R. MORRIS Memorandum Decision and Order Case No. 090700830

CERTIFICATE OF MAILING

I hereby certify that on the day of May, 2013, I sent a true and correct copy of the foregoing Memorandum Decision and Order to the parties as follows:

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