A SURVEY OF STATE ASSESSMENT OF PUBLIC UTILITIES AND RAILROADS IN RELATION TO EQUITY IN ASSESSMENT AND TAXATION

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LETTER OF TRANSMITTAL

June 3, 1974

Dr. Glen W. Atkinson, Chairman
and Members of the State of Nevada
Assessment and Tax Equity Committee

Honorable Gentlemen:

In accordance with the legeslative directive creating your committee and also in accordance with your contract with the undersigned entered into January 1, 1974 I herewith present my report on an analysis and evalution of current Nevada railroad and public utility assessment practices.

The writer wishes to express appreciation for the generous assistance extended to him by the staff of the Utility Section of the Nevada Tax Commission and the Department of Economics of the University of Nevada. Also, the writer wishes to thank the representatives of the various state assessees that furnished to him upon request helpful statistical information.

Respectfully submitted,

L. Judd Eastman

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Consultant to your committee

INTRODUCTION

THE SCOPE OF THE SURVEY

Constitutional Provisions

Article 10 Section 1 of the Nevada Constitution states in part as follows, "The legislature shall provide by law for a uniform and equal rate of assessment and taxation, and shall prescribe such regulations as shall secure a just valuation for taxation of all property, real, personal and possessory, except mines and mining claims, when not patented, the proceeds alone of which shall be assessed and taxed, ..." and then goes on further to exempt certain properties from taxation including most intangible property, goods intransit, etc.

Equity is a constitutional requirement

Clearly as do most state constitutions, the Nevada Constitution requires that equity be established in the assessment and taxation of all property subject to ad valorem taxation, which in Nevada is all property with certain exceptions whose aggregate value is minor compared to the total value of tangible property in the State.

First requisite for attainment of equity in assessment and taxation

To attain equity or fairness in assessment and taxation, first, "a just valuation for taxation for all properties" must be established. It follows that there must be a basis of valuation that is common to all taxable properties. This necessary common base has been and is described in many ways--such as, full cash

value, cash value, taxable value, true value, and market value. However, in recent years it has become recognized that all definitions are really trying to describe market value which is well defined in the Property Tax Regulations of the Nevada Tax Commission as "The highest price in terms of cash, or in terms reasonably equivalent to cash, which a property will bring if exposed for sale on the open market by an informed seller, with a reasonable time to find a purchaser buying with full knowledge of all the uses and purposes to which it is adapted and for which it is capable of being used, with neither the buyer or the seller being under compulsion to buy or sell." This definition could be considered as an expansion of the definition included in the same regulations of "full cash value" -- the amount at which the property would be appraised if taken in payment of a just debt from a solvent debtor.

Second requisite for attainment of equity in assessment and taxation

The second requirement to attain equity or fairness in assessment and taxation is that after a common tax base has been determined for all property that property having the same situs should be subject to taxation by the same taxing jurisdictions, and should be taxed in the same manner and to the same extent. This would seem to be almost axiomatic. However, it is questionable if this requirement for equity is being met in Nevada in certain instances where within a taxing jurisdiction the assessment of property is the responsibility of more than one assessing authority. This matter will be explored further.

Is the assessment base and the tax burden the same for state assessed and locally assessed property

Quite often the question arises in the mind of the layman as to whether or not in the taxation of public utilities and railroads, the value used as the assessment base is the same as that used for his home, or for his business or commercial property. And further, if he is a Nevada citizen and if he is concerned sufficiently, a perusal of the tax roll at the county courthouse will show him that the company that owns the large telephone central office or the electric power plant that is adjacent to his property is apparently not paying taxes for, say, the support of the local school district in the proportion to its obviously high value that he is paying in relation to the value of his property. His answer to this apparent discrepancy may be that the central assessing agency, that is the Nevada Tax Commission, is setting the market value of the utility property and the county assessor is valuing my property and they are not doing things the same way. One or the other is wrong. This is not to say that there are not some laymen that are sophisticated enough in the techniques of assessment and valuation to understand the reason for the existence of what seems to be a discrepancy and are aware of the revenue statutes of the state that requires that utility and railroad assessments be distributed on a "mile-unit valuation basis". What this points up is that this survey must determine if the market value of utility and railroads determined by the Nevada Tax Commission is directly comparable to the market value determined by the local assessor for common property, for if it

is not we do not have equity in assessments for all property. And further, if the assessed value determined by the N.T.C. for utilities and railroads is not allocated to situs in a reasonable relation to the value of the individual parts of the utility property, so that this property is subject to the same tax rates as the common property having the same situs, then there is not equity in taxation.

Equity between various state assessed properties

Naturally, there must be equity in valuation between various utilities and railroads, both of the same class and between classes. The same principles and methods used in determining market values must be used for all railroads, electric companies, telephone and telegraph companies, private car companies, and airlines.

Possibility of interstate allocation formulas as a source of inequity

In the case of interstate utilities and railroads the allocation formulas used to allocate the market value must be such as to not import value from portions of the system in other states, and to be sure, also, that the assessing state receives all the value to which it is entitled. In other words, it is possible for interstate allocations made by the assessing agency to result in inequity in valuation and taxation.

Possibility of statutes and tax regulations as source of inequity

The Revenue and Taxation Laws of the State as well as the Property Tax Regulations of the Nevada Tax Commission could possibly result in inequities in valuation and taxation. It may be that the revenue and tax laws relating to allocation of utility

values to the various taxing jurisdictions results in unfairness in taxation. Further, it could be that in fairness to all taxpayers and to all students in public schools that there should be a state-wide ad valorem tax for that portion of school support not supplied by the state general fund and the 1¢ school support sales tax instead of the present levies by individual school districts, some of which have a comparatively small tax base and others a large one in proportion to the number of students in the district.

Summary of scope of survey

To summarize, what this survey will attempt to cover is:

1. Basis of valuation used for ad valorem tax purposes.
2. Are the valuation methods and principles and inter-state allocation methods used by the N.T.C. such as to provide equity between the various utilities and railroads.
3. Are the basis of valuation used by the N.T.C. and the county assessors sufficiently comparable so that there will be equity between state-assessed and common property.
4. Are the intrastate allocation methods used by the N.T.C. such as to provide equity between utilities and between utilities and common taxpayers in the State.
5. What possible law and constitutional changes could be made to provide greater equity in assessment and taxation of all property subject to ad valorem taxation.

PART I

BASIS OF VALUATION FOR AD VALOREM TAX PURPOSES - MARKET VALUE

Definition of Value for tax purposes

The Committee on Unit Valuation of the National Association of Tax Administrators in its report entitled Appraisal of Railroad and Other Public Utility Property for Ad Valorem Tax Purposes, published in 1954, defined value for tax purposes as follows:

> "Value for tax purposes' is the price at which a property could be sold at a given date if the seller had ample opportunity to seek out the highest bidder, and the bidders, in turn, had ample opportunity to inform themselves of the characteristics of the property and to ascertain the terms upon which alternative properties, if any, could be bought. It is not the same thing as cost, although the two tend to be equal at the time the cost is incurred. It is not the same thing as 'value for rate-making purposes' although the rate base established by the regulatory agency tends to equal the value for tax purposes if the utility is able to earn what the agency regards as a fair return and no more, and the agency's concept of a fair return coincides with that of the investing public. Value is not necessarily the present

> worth of the assessor's own best estimate of the future income; it is the expectations of investors which govern values, even though they may differ from those of the assessor".

Very few if any appraisers, valuation engineers, or tax administrators would not subscribe to this definition of value for tax purposes. It actually expresses the concept of all definitions of market value, augmented somewhat to particularly include properties that are subject to governmental regulation, public utilities and railroads.

Approaches to estimation of market value

There are several approaches that can be used in the determination, or better, estimation, of market value. Obviously, the best is the consideration of actual past sales of the property to be valued or sales of closely comparable properties. In the absence of actual sales information, other approaches to the determination of market value are valid. Included in these approaches are: (1) estimates of reproduction cost new less depreciation, (2) capitalized earnings of the properties, (3) stock and debt value of larger commercial and industrial properties including public utilities, and (4) for regulated public utilities, the rate base, the amount upon which the regulatory agency allows the owners of the utility to earn, in the judgment of the regulatory agency, a fair return. All of these secondary approaches can furnish acceptable evidence of the amount a prospective purchaser would or could justifiably pay for the properties, that is, acceptable evidence of market value.

Reproduction cost new less depreciation is good evidence of value for locally assessed property

Reproduction cost new less depreciation is a very good evidence of market values of property that is not subject to regulation of return by the state regulatory agency and is of a type that is being produced currently. A prospective purchaser of a home, a store building, factory or apartment house has two choices. He can buy a property that is already built, or he can have a new property constructed for him. Everything else being equal, he will avail himself of the second choice if the owners of existing properties ask more than the cost to reproduce the property (adjusted for depreciation, of course). This prerogative of a prospective buyer will limit the sales price of existing properties. On the other hand, the seller would not have to take less than the replacement cost less depreciation if the demand for such properties is great enough so that it cannot be fully supplied without building some new properties. Thus, reproduction cost new less depreciation and sales price of existing properties tend to be quite comparable.

Reproduction cost new less depreciation is not applicable as an evidence of value for most state-assessed property

In Nevada the rate base, the amount upon which a public utility is allowed to earn a fair return, is original or historical cost less depreciation - not reproduction cost new less depreciation. No one would pay an amount equal to reproduction cost new less depreciation for a property (except under very exceptional conditions)

when he would only be allowed to earn upon historical cost new less depreciation, which is usually appreciably less than reproduction cost new less depreciation. Further, for railroad properties this factor is meaningless because of the existence of the great amount of obsolescence and other functional inefficiency in its properties. It follows that reproduction cost new less depreciation cannot be considered as an evidence of value when valuing a public utility or railroad property. However, when valuing state-assessed property that does not have a formal rate base, such as private car companies, or pipeline companies subject to regulation by the Interstate Commerce Commission that uses reproduction cost new less depreciation as a rate base, reproduction cost new less depreciation is just as good an evidence of value as it is for locally assessed property.

Capitalized earnings is a good evidence of value for both locally assessed and state-assessed property

Capitalized earnings, the second approach to market value listed above, is applicable to both locally assessed properties and state-assessed properties. Earnings, in the economic sense, are the very essence of value. If a property cannot earn any return, it has no value (except possibly the salvage value of the component parts). Capitalized earnings are the present worth of the future returns that the property is expected to produce, that is, it is the amount a prospective purchaser could pay for a property and by the time it is worn out, expect to have his original investment returned to him and to have, in addition, what he considers to be an adequate return on his money all the time it

is invested in the property. Most professional appraisers consider this the second best evidence of value -- surpassed only by sales prices. But it must be determined with care, taking into account all conditions that may exist in the future that could increase or decrease the present annual return, or that could affect the life expectancy of the property. Also, which is of utmost importance, the cost of money must be considered.

Market value of stock and debt is a usable evidence of value for state-assessed property and for a very limited number of locally assessed properties

The stock and debt evidence of market value, the third approach listed above, is an approach that can be used either in the appraisal of state-assessed property or in the appraisal of general property by the local assessor. The stock and debt value of all of the outstanding securities of a corporation as determined by the market quotations at the time of the appraisal. It is said to be what the purchasers and sellers of securities think is the market value of the properties of the corporation.

Because of the differences in the character of locally assessed and state-assessed property, the stock and debt approach will generally be much more applicable to state-assessed properties. Seldom is the property of a company whose shares are quoted over the counter or on a stock exchange wholly or even largely within the jurisdiction of a single county assessor. Moreover, the value of the stock of an unregulated company may be considerably influenced by the company's goodwill - an asset on which a regulated utility is not allowed to earn a return - and

by the quality of the management - a factor of relatively much less importance in a monopoly-type utility. Those who seek to acquire control of an unregulated company by stock purchase frequently offer appreciably more for the stock than it is selling for when the offer is first made, but this is much less likely to occur in the case of a regulated monopoly-type utility since the person acquiring control would usually not expect to be able to increase the company's earnings on the property he was acquiring.

Rate base is good evidence of value for most state-assessed properties but not for locally assessed properties

The fourth approach to market value mentioned above is rate base. Generally, the earnings of properties that are locally assessed are limited or determined by competition. The return on these properties is related to reproduction cost new less depreciation, the amount upon which a new competitor expects to earn an adequate return when he enters the market. The prices charged or returns on investment have little or no relation to original cost but tend to be related to reproduction cost new less depreciation of the property producing the income or return. On the other hand, most state-assessed property is subject to regulation by the Public Service Commission of Nevada and/or various federal agencies such as the Federal Power Commission or Federal Communications Commission; and the rate base, the amount upon which the owners are allowed to earn by these agencies, (with certain exceptions mentioned before) is the original or historical cost new less depreciation. It follows that, for

locally assessed property, reproduction cost new less depreciation is a very good indicator of market value, and original cost new less depreciation has very little or no relation to market value. But, for most state-assessed property, reproduction cost new less depreciation is a very good indicator of market value. As stated before, no one would pay reproduction cost new less depreciation (except under exceptional circumstances) which is sometimes half again to twice as much as original cost new less depreciation, for a gas and electric or telephone property, when they would only be allowed to earn a fair return on original cost new less depreciation.

The approach to value determination is generally different for locally assessed property and state-assessed property, but the result is the same - market value

When the appraiser does not have any actual sales of a property or a closely comparable one, upon which to base his appraisal he must use substitute indicators of market value. All of these other indicators of market value do not have the same degree of applicability to or reliability for various types of property. As has been discussed, for example, reproduction cost new less depreciation is fully applicable to one type of property and is totally inapplicable to another type. However, when the competent appraiser of common property and the competent appraiser of state-assessed property have judiciously selected the proper indicators of value and drawn their professional conclusions from them, they have both arrived, to the best of their ability, at what the economists call market value, which stated briefly is the price the property will bring in a competitive market.

PART II

VALUATION PROCEDURES AND PRINCIPLES USED IN APPRAISAL OF STATE ASSESSED PROPERTIES

The following valuation procedures and principles stated and described are those generally recommended in the WSATA Utility Valuation Report of 1971. They are adhered to by most of the central assessing agencies of the Western States with exceptions that are mostly minor or where there are statutory conflicts.

Valuation are "unit appraisals"

To the extent possible the central assessing agency valuations should be unit appraisals of integrated properties as a whole without any reference to the value of the component parts. The Nevada statutes, NRS 361.320 subsection 2 require that utility and railroad properties be appraised in this manner.

According to court decisions in this country beginning as far back as 1869, the use of the unit valuation principle is the only way to value industrial properties such as public utilities and railroads. In 1869, the Kansas State Supreme Court (Missouri River, Fort Scott, & Gulf Railroad v. Morris, 7 Kan. 210 [1871]) said, "A railway is an entire thing and should be assessed as a whole. It would be almost as easy and as reasonable to divide a house or locomotive into portions and assess each portion separately as to divide a railroad into portions and assess each portion of it separately."

Unitary properties described

Properties appraised using the unit valuation principle

are termed "unitary" properties. Generally, with some minor exception, such as properties leased to a railroad or public utility, unitary properties are the operative properties of an assessee. The operative properties are the properties that are used in the primary function of the company, that is, for a railroad company, used in the transportation of freight and passengers, or for a power company, used in the generating, transmission, or distribution of electricity.

Nonunitary properties described

Nonunitary properties, on the other hand are, in general, nonoperative properties, such as the agricultural lands that are owned by a railroad and are leased out to farmers, or mineral rights associated with operative lands of a public utility. Nonoperative properties are not used in the primary business of the assessee. They are generally valued and assessed separately by the county assessors in Nevada and are not included in the value ascribed to unitary properties.

Main indicators of value for unitary property

In making unit appraisals, that is, appraisals of unitary properties of utility and railroad properties, four main indicators of value are developed, not all of which are available for all properties. These indicators are:

1. Historical cost less depreciation
2. Reproduction cost new less depreciation
3. Capitalized earnings
4. Stock and debt value

Other data bearing on value, is considered when appropriate.

Historical cost less depreciation and rate base

As was stated previously, historical cost less depreciation is considered to be a very important indicator of value for gas, electric, and telephone companies because it is comparable in Nevada to the rate base, the amount upon which the regulatory commission allows the utility to earn what it considers a fair rate of return. This return has to be sufficient to provide adequate service to the consumer and to attract necessary additional capital investment. It is not an important indicator of value for railroad properties, however, as most railroad companies, by reason of the competition to which they are subject, are unable to charge enough to make a fair return on the net investment in their properties.

This indicator includes some amounts that are not included in the rate base and excludes some that are included. For example, it includes Donations in Aid of Construction, which is generally excluded from the rate base, as there is nothing in the laws of most states that excludes this property from taxation; but the laws of most states exclude "working cash", which is included in the rate base, as this is an intangible and the central assessing agency's unit assessments include only tangible property. The depreciation which is deducted from the original cost to derive this value indicator is the book depreciation, since this is the amount that has been deducted to arrive at the rate base.

It might be well to point out that if a public utility is sold, the price paid by the new owner does not become the rate base. The rate base continues to be the original investment (minus depreciation) in the property at the time the property was first devoted to public use.

Reproduction cost less depreciation - a ceiling

As has been stated, reproduction cost new less depreciation is not considered to be an important indicator of value for unitary state-assessed property except as a ceiling for taxable value. However, there are two exceptions, RCNLD is an important indicator for private car companies and pipeline properties. Of course, it is seldom possible to value a private car company as a unitary property.

Capitalized earnings - the value to a prospective purchaser

In capitalizing earnings, the central assessing agency seeks to find the value to a prospective purchaser could pay for the property and have the original cost returned to him by the time the property is worn out, with interest on his investment until it is fully returned.

Four different amounts can be capitalized (1) net operating revenue, (2) net operating revenue before depreciation (3) net operating revenue before depreciation and income taxes, and (4) net operating revenue before depreciation, income taxes and ad valorem taxes.

Some appraisers feel capitalization of the first of these amounts, net operating revenue, gives a reasonably correct answer

but the writer feels strongly that this computation does not give a fully competent answer for reasons that will be given as the other three capitalizations are discussed. Those that do favor capitalization of net operating revenue generally feel that the other capitalizations are theoretically correct and will tend to give a more adequate answer but that the calculations required are too extensive and are beyond the capabilities of a small assessment staff. The writer feels that by the use of certain short-cut methods of estimating life expectancies of properties, a small staff can make the other capitalizations. These short-cut methods are covered in the WSATA Utility Valuation Report of 1971, appendix C, pages 197 to 201.

In capitalizing the second of the amounts listed above, net operating revenue before depreciation, the reason depreciation is not deducted is that the present owners depreciation charges are for writing off his investment and are not necessarily an accurate statement of the yearly loss in the present worth of the future earnings. In capitalizing before depreciation an increment is added to the basic capitalization rate that will provide for a return to the purchaser of his investment by the expiration of the calculated composite life expectancy of the property. This increment provides for depreciation of the investment of the prospective purchaser, or return of his capital, not of the present owner's cost. Further, capitalization of net earnings after depreciation, that is, in perpetuity, would produce, in general, the same appraised value for an old property that has a life expectancy of one year and for a relatively new property that has a life expectancy of, say, 25 years.

In capitalizing before depreciation, the income taxes are "normalized" by adding back into the stated amount of taxes any reductions due to rapid amortization, accelerated depreciation, and investment tax credit, as they would not be available to the purchaser of the property. Also, any amounts that are due to adjustments of prior years' taxes are eliminated.

The third amount to capitalize is net operating revenue before depreciation and corporation income taxes (including state income tax if any). The rate for capitalization at this point is the basic rate, plus increments for depreciation and for income taxes. The income tax increment is obtained by the use of a formula that takes into account the effect of the depreciation charges and the probable capital structure of the prospective purchaser, using the assumption that the capital structure will be the same for all companies in a given class. It is felt that, say, one railroad does not have a greater value than another simply because it has more indebtedness and therefore has a smaller income tax obligation, other things being equal.

The fourth amount that is mentioned above to capitalize is net operating revenue before depreciation, income taxes, and ad valorem taxes. The total capitalization rate in this case includes an increment for ad valorem taxes based on the total taxes levied on the previous year's market value. This, in effect, bases ad valorem taxes on the value that served as the prior year's tax base. This increment can be accurately determined only for an intrastate company and is only used for such companies. The writer considers the capitalization of this earning figure the

most reliable of the capitalized income figures.

The basic capitalization rate used in earning-value calculations is determined on the basis of current rates of interest or return which the prospective purchaser would have to pay on the various types of securities with which he would finance his purchase.

The capitalization of past earnings is a valid indicator of value only if the past earnings reasonably reflect, in the judgment of the appraiser, what the earnings will be in the future. For this reason, earnings should be adjusted before capitalizing to remove the effect of any nonrecurring losses of income and to take into account any increase in net income that can be reasonably expected, such as that due to future rate increases. Most appraisers capitalize a five-year average income for companies with little or no capital expansion, such as railroads; but for growing companies, such as gas, electric, and telephone companies, most feel that only the income of the latest year is pertinent, as the income of any prior year does not reflect the income from the presently existing property, the property being valued.

Stock and debt - market value of outstanding securities

The stock and debt indicator of value should be derived for all companies whose securities are traded on the market in substantial volume. The market value of the outstanding equity securities and debt obligations, plus the market value of the current and deferred liabilities, establishes the gross stock and debt value. To obtain the market value of the tangible unitary property, all assets that are not part of the unitary property or

are not assessable whose value is reflected in the market value of the liabilities must be deducted. These deductible items consist of such property as accounts receivable, nonoperative properties, sinking funds, stocks and bonds of other companies, and licensed motor vehicles. The average prices of securities for the previous twelve months are used for current value determinations, as this period is believed to be sufficiently long to smooth out the effects of any momentary extraneous influences on the market but not too long to fail to reflect the current opinion of value in the market place.

The stock and debt value as an indicator of value is one that is useful but its applicability an as indicator for the value of the property of a particular company must be examined closely. It must be remembered that the value of the equity is being determined by the sale of a comparatively few of the outstanding shares, not more than 6% to 8% annually for a heavily traded stock and as little as less than 1% for lightly traded one. The purchaser of these shares is motivated in many ways other than what he thinks is the intrinsic value of the shares, that is the value that actually relates to the value of the underlying existing properties as an income producer.

The price the purchaser will pay for the stock is influenced by such things as the dividend pay-out policy, his expectation of the future growth of the company and hence greater dividends, the price of other stocks, secular trends in the stock market and market availability of the stock. All of these are really not related to the market value of the property in place on the lien date. This is all to say that the market price of the stock

does not necessarily lead directly to the market value of the equity on the property.

The appraiser in using a stock and debt indicator of value must be aware of and make allowances for the effect on the market price of stock caused by the buyers anticipation of greater returns in the future because of growth. This price includes the present value of the future returns on property not yet in place in addition to the value of the future returns of the property already in place -- the property being valued for tax purposes.

The dividend payment or lack of payment sometimes has a spectacular effect. In April of 1974 the large electric utility serving the city of New York skipped its quarterly dividend for the first time in history. This was not particularly because the earnings were insufficient to pay the dividend but because of the need of a large amount of working cash to provide for the rapidly increasing cost of boiler fuel and new construction. Upon the announcement of the dividend omission, the price of the common stock of the company dropped in one day from around 18 to about 12, and in the week following to 8. It is not reasonable to think that the value of the equity interest in the utility property decreased in the same relation in the same time. The financial woes of the company had been public knowledge for over a year and presumably the market had already adjusted to the facts.

The writer has seen the stock and debt values of several major utilities in the last twelve to fifteen years go from nearly 50% greater than RCNLD to less than book cost back to amounts

approaching RCNLD again, and then again in the last two or three years to less than book cost, an amount comparable to rate base.

All of this is not to say that the writer feels that stock and debt should be discarded as an indicator of value. What he is saying is that it is a volatile and at times a somewhat erratic indicator and the weight given it for each particular company should be considered carefully.

The final determination of market value

In the final determination of market value, a formula should not be used to weight the various indicators of value, but such weight should be given to each indicator of value for each assessee as appears to be justified by all the facts in the appraiser's possession. In other words, the appraiser, as he must, observes the "Smyth v. Ames rule." Smyth v. Ames, U.S.- (1898) is the most famous and most cited valuation decision. In holding a Nebraska railway rate law unconstitutional, because the rates would be confiscatory, the United States Supreme Court established the "Smyth v. Ames rule;" that all factors affecting value must be given "such weight as is just and right in each case."

PART III

SAMPLE APPRAISALS

Do the appraisals of the N.T.C. adequately represent market value

To determine if the appraisals of utility and railroad property made by the Nevada Tax Commission adequately represent market value, and that the principles and methods used in the determination of market value are consistent for all companies, appraisals have been made by the consultant of the electric, gas, water, telephone and railroad properties of seven different assessees and the property of all private car companies. It is felt that the selection of the properties results in a fair sampling of state-assessed properties as to type and amount of assessment. The total 1973-74 assessed value of these properties is a little over one-quarter of the total 1973-74 assessed value of interstate and intercounty utility and railroad companies.

Comparison of appraisals of N.T.C. and the consultant

The results of the appraisals are shown in tabular form below in such a manner that the Nevada Tax Commission appraisals and those of the consultant can be directly compared. Following the tabulation individual appraisals will be discussed. Reasons for differences in both the input and the output of the appraisals will be included in the discussion.

Determination of basic capitalization rates and stock and debt indicators of value very competently done by N.T.C.

An examination of the records of the N.T.C. shows that the basic capitalization rates used in capitalizing income have been competently determined from a large amount of pertinent data and in most instances they have agreed quite closely with those considered acceptable by the consultant.

For those companies that a stock and debt indicator of value could be derived it was found that N.T.C. had done a very careful and complete job using procedures and methods that are in agreement with those advocated in the WSATA Utility Valuation Report of 1971. After a close check of each of the stock and debt indicators made by the N.T.C. they were accepted and used by the consultant in his appraisals with minor corrections and changes that he thought should be made.

APPRAISAL NO. 1

SIERRA PACIFIC POWER COMPANY (Electric System Only)

	Nevada Tax Commission	Consultant
HCLD	167,915,347	167,626,519
RCNLD	---	---
Basic Capitalization Rate	9.0%	9.0%
Capitalized Earnings	127,976,534	143,504,249
Stock and Debt	146,029,795	145,721,020
Electric Syst. Market Val.	147,562,712[1]	154,692,000
(Based on alloc. of full syst. value)	146,683,655	---
Allocation to Nevada		
Percent	87.22%	87.22%
Amount	127,937,484	134,692,000
Non-taxable	894,407	949,000
Taxable	127,043,077	133,973,000
Assessed Value @ 35%	44,465,000	46,891,000

[1] Note: The N.T.C. derived the value of the electric system in two different ways, first, by using the indicators of value directly derived for the electric system, and second, by deriving indicators of value for the entire properties of the company, electric, gas, and water, and then allocating back to the electric system on the basis of 75% weight to gross plant and 25% to net operating revenue. The N.T.C. then chose to use the allocated value for assessment purposes. The consultant considers the first value to be the more reliable figure.

APPRAISAL NO. 2

CALIFORNIA PACIFIC UTILITIES COMPANY

	Nevada Tax Commission	Consultant
SYSTEM (Elec. Gas Water & Tel.)		
HCLD	73,547,327	73,547,327
RCNLD	---	---
Basic Capitalization Rate	9.0%	9.0%
Capitalized Earnings	65,035,270	74,147,686
Stock and Debt	65,945,830	65,945,830
Full Value	*(A) 68,804,317	*(A) 70,626,799 *(B) 73,057,334

Allocation Factors

System	
Electric	43.29%
Gas	33.33
Water	2.48
Telephone	20.90
	100.00

*Weighting of Indicators

	(A)	(B)
HCLD	40%	45%
Cap.Earn.	20%	45%
Stk &Debt	40%	10%

Nevada	
System Electric	12.654%
" Gas	3.704
" Water	37.704

Allocation Full Value to Nevada

Electric	68804317 x 43.29 x 12.654	3,769,043
Gas	68804317 x 33.33 x 3.704	849,419
Water	68804317 x 2.48 x 37.704	643,361

APPRAISAL NO. 2 (Continued)

	Nevada Tax Commission	Consultant
Electric		
HCLD		4,255,368
RCNLD		---
Basic Capitalization Rate		9.0%
Capitalized Earnings		2,812,367
Stock and Debt		---
Full Value	3,769,043	
Non-taxable	54,016	
Taxable	3,715,027	3,245,000
Assessed Value @ 35%	1,300,000	1,136,000
Gas		
HCLD		888.508
RCNLD		---
Basic Capitalization Rate		9.0%
Capitalized Earnings		730,122
Stock and Debt		---
Full Value	849,419	
Non-taxable	5,716	
Taxable	843,703	778.000
Assessed Value @ 35%	295,000	272,300

APPRAISAL NO. 2 (Continued)

	Nevada Tax Commission	Consultant
Water		
HCLD		670,398
RCNLD		---
Basic Capitalization Rate		9.0%
Capitalized Earnings		631,397
Stock and Debt		---
Full Value	643,361	
Non-taxable	3,231	
Taxable	640,000 (used)	643,000
Assessed Value @ 35%	224,000	225,000

APPRAISAL NO. 3

SOUTHWEST GAS CORPORATION

	Nevada Tax Commission	Consultant
HCLD	89,528,408	89,524,411
RCNLD	---	---
Basic Capitalization Rate	9.5%	9.5%
Capitalized Earnings	72,231,349	70,637,089
Stock and Debt	93,930,840	94,913,578
System Full Value	84,779,534	83,452,765
Allocated to Nevada		
Percent	70.5%	75.14%
Amount	59,769,572	62,706,407
Non-taxable	264,203	264,203
Taxable	59,505,369	62,442,204
Assessed Value @ 35%	20,827,000	21,855,000

APPRAISAL NO. 4

CENTRAL TELEPHONE CO. - SO. NEVADA DIVISION

	Nevada Tax Commission	Consultant
HCLD	130,774,398	131,421,434
RCNLD	---	174,580,885
Basic Capitalization Rate	9.5%	9.5%
Capitalized Earnings	91,837,738	136,428,612
Stock and Debt	---	---
Full Value	111,306,068	133,925,020
Non-taxable	624,873	734,195
Taxable	110,681,195	133,190,825
Assessed Value @ 35%	38,738,000	46,617,000

APPRAISAL NO. 5

CALNEV PIPE LINE COMPANY

	Nevada Tax Commission	Consultant
HCLD	---	12,936,499
RCNLD	(Nev. only) 5,189,588	19,759,631
Basic Capitalization Rate	---	10.0%
Capitalized Earnings	---	24,505,199
Stock and Debt	---	---
System Full Value	---	22,100,000
Allocated to Nevada	---	* 26.50%
Percent		
Amount	5,189,588	5,856,500
Assessed Value @ 35%	1,816,000	2,049,775

*W.S.A.T.A. Alloc. Form.

APPRAISAL NO. 6

WESTERN PACIFIC RAILROAD SYSTEM

	Nevada Tax Commission	Consultant
HCLD	178,974,819	---
Basic Capitalization Rate	8.5%	10.0%
Capitalized Earnings	20,433,035	59,097,096
Stock and Debt	53,725,024	54,841,240
System Full Value	47,305,064	58,033,000
Allocated to Nevada		
Percent	31.43%	28.23%
Amount	14,867,982	16,382,715
Material & Supplies-Nev.	(included in above)	806,788
Non-taxable	39,658	39,658
Taxable	14,828,324*	17,149,845*
Assessed Value @ 35%	5,190,000	6,002,000

*Note: N.T.C. figures are for the Western Pacific Railroad Company only. The consultant's figures are for the consolidated system which includes the Sacramento Northern Ry., and the Tidewater Southern Ry. After allocation to Nevada, addition of material and supplies in Nevada, and subtraction of non-taxables from the consultant's value, the figures of the N.T.C. and the consultant are directly comparable.

APPRAISAL NO. 7

WESTERN AIR LINES, INC.

	Nevada Tax Commission	Consultant
HCLD	252,921,077	252,819,994
RCNLD	---	---
Basic Capitalization Rate	9.5%	9.5%
Capitalized Earnings	366,617,561	232,299,083
Stock and Debt	355,973,123	324,792,147
System Full Value	331,620,488	254,000,000
Allocated to Nevada		
Percent	3.9977%	2.8289%
Amount	13,257,032	7,185,326
Assessed Value @ 35%	4,640,000	2,515,000

APPRAISAL NO. 8

VALUATION OF PRIVATE CAR LINES 1973-74

1 COMPANY	CONSULTANT 2 Market Value per Car	3 Assessed Value per Car Col.2X 35%	4 Accumulated Mileage in Nevada From R.R. Statements	5 Equivalent Number of Cars Col.4 ÷ 960 ÷ 365	6 Total Assessed Value Col.3X Col.5	Nevada Tax Commission 7 1973-74 Total Assessed Value	8 Difference
Allied Chemical Corp.	9500	3325	138810	.396	1317	1581	(264)
American Colloid Corp.	2168	759	106523	.304	231	1381	(1150)
American Refer. Transit	10240	3584	797196	2.275	8154	10921	(2767)
Champion Interna. Corp.	18800	6580	501408	1.431	9416	6334	3082
Chartrands Tank Car Service	6200	2170	111553	.318	690	1528	(838)
Chicago Freight Car Leasing Co.	11648	4077	129197	.369	1504	1343	161
Commonwealth Plan Inc.	13560	4746	854051	2.437	11566	8774	2792
Continental Oil Co.	16024	5608	170448	.486	2725	2335	390
Crystal Car Line	9200	3220	267459	.763	2457	3583	(1126)
E.I.Dupont de Nemours & Co.	19664	6882	160992	.459	3159	2202	957
Evergreen Freight Car Corp.	17120	5992	9044494	25.812	154666	123987	30769
Far-Mar-Co Inc.	14000	4900	121316	.346	1695	1247	448
F.M.C. Corp.	16000	5600	319030	.910	5096	3286	1810
Fruit Growers Express	12560	4396	2682260	7.655	33651	36740	(3089)

1	2	3	4	5	6	7	8
Garvey Elevators Inc.	14400	5040	86196	.246	1240	886	354
General American Transp. Co.	9820	3437	6194569	17.679	60763	82035	(21272)
Merchants Dispatch Trans. Corp	6440	2254	1648680	4.705	10605	22422	(11817)
Monsanto Corporation	16828	5890	91945	.262	1543	1221	322
Morrison Car Leasing Inc.	9760	3416	77486	.221	755	796	(41)
Nat. Railroad Pass.	15830 cars	5540	- *	4.293	23783)		
Corp. (AMTRAK)	27314 loco.	9560	- *	1.431	13681)	37464	0
North American Car Corp.	12992	4547	4723990	13.482	61303	59478	1825
Pacific Fruit Express Co.	21748	7612	54090961	154.369	1175058	738521	436537
Pullman Transp. Leasing Co.	16080	5628	4264817	12.171	68498	43978	24520
Rail-U.S. Leasing Inc.	17400	6090	108528	.310	1888	1487	401
Relco Tank Line Inc.	17300	6055	254348	.726	4396	3471	925
Shell Oil Company	14536	5088	81334	.232	1180	1083	97
Shippers Car Line (ACF Industries)	10076	3527	4659993	13.299	46906	57203	(10297)
Stauffer Chemical Co.	6264	2192	271352	.774	1697	3064	(1367)
Trailer Train Co.	15100	5285	41964107	119.761	632937	431138	201799
Union Tank Car Co.	9480	3318	1872782	5.344	17731	25556	(7825)
U.S. Railway Equipment	18544	6490	1589384	4.536	29439	20023	9416
Western Fruit Express Co.	13296	4654	3506232	10.006	46568	40542	6026
TOTAL					2436298	1775520	660778

APPRAISAL NO. 8 (cont)

*The National Railroad Passenger Corporation (AMTRAK) reports system mileage and Nevada mileage, as well as the round trip traveling time (including waiting time at terminals) segregated between Nevada and the other states. The San Francisco Zephyr is the only train running thru Nevada. The company suggests the use of an allocation formula that gives equal weight to mileage and time. They also suggest the use of depreciated book value for market value of the equipment. For this particular company, the use of the suggested formula and values results in a reasonable assessment.

APPRAISAL NO. 1

Sierra Pacific Power Company

This appraisal is that of the Sierra Pacific Power Company and is for the electric system only which is interstate, the property being located both in Nevada and California. For the three indicators of value that can be derived for this property it will be noted by referring to the valuation tabulation that the N.T.C. and the consultant are in very close agreement for Historical Cost Less Depreciation and for Stock and Debt. On the other hand, there is a somewhat substantial difference between the determinations of capitalized earnings.

The difference is due to the method of capitalization. The N.T.C. capitalized net operating revenue at 9% in perpetuity and the consultant capitalized net operating revenue before depreciation and income taxes which the consultant considers more appropriate (See Part II).

There is a difference in the recommended market value of the N.T.C. and the consultant of approximately $7,129,000. There are two reasons, first the methods of capitalizing income, of course, and the other is that the consultant gave greater weight to HCLD (comparable to rate base) and less weight to the Stock and Debt than did the N.T.C. The factors used for allocation to Nevada (WSATA formula) are the same. There is a minor difference in the estimate of the value of the non-taxable property included in the unitary value. The final market value of the electric system allocated to Nevada ends up with the consultant's value being some $6,930,000 greater than that of the N.T.C.

APPRAISAL NO. 2

California Pacific Utilities

This appraisal is that of the California Pacific Utilities Company. This company's properties consists of many separately operated units of gas, electric, water and telephone utilities, with no physical connection scattered over several western states. Some of the units are quite profitable and others produce a very low return. Separate accounting is maintained for all units making it possible to calculate HCLD and capitalized earnings for each unit.

The N.T.C. chose to appraise the total properties of the company as a unit and then to allocate the value to departments, gas, electric, water and telephone which were in turn allocated to Nevada units. The consultant valued the Nevada gas, electric, and water properties as separate units without reference to the out-of-state properties.

The consultant feels that his method is preferable as it will better determine the actual market value of the properties in Nevada than a chain of allocations (which by their nature have to be somewhat arbitrary) from the total value of group of physically unrelated units. If it were not possible to obtain indicators of value for the units in Nevada separately, then the only recourse would be to the method used by the N.T.C.

If it was felt that the stock and debt indicator of value had to be used in the valuation of the Nevada properties, it could have been determined for the entire system and then allocated

to the Nevada properties as the N.T.C. did with the value of the entire system. However, the consultant feels that stock and debt is not the best indicator of value in most instances and by the time it has been allocated to small portions of the total property its validity is questionable.

The values of the N.T.C. for the Nevada properties are about 14% higher for electric and 8% higher for gas than the consultants, but the water values are practically in agreement. When the consultant used the same methods as the N.T.C., (see the appraisal valuation) with same weightings to each of the system indicators of value his allocation to each of the Nevada properties would have been somewhat higher than those of the N.T.C., and if the consultant had used weightings for the indicators that he considers proper for this company, that is, less weighting for stock and debt and more for capitalized earnings, the allocation to the Nevada properties would have been even greater.

The basic difference would have been due to the capitalized earning indicator which the consultant determined by capitalizing earnings before depreciation and income taxes. The N.T.C., of course, capitalized just net operating income.

With all of the consultant's values being lower or tending to be lower than those of N.T.C. for the Nevada properties it appears that it could be possible, that the allocation calculations used by the N.T.C. have resulted in importing value from other states.

APPRAISAL NO. 3

Southwest Gas Corporation

This appraisal is that of the Southwest Gas Corporation and is for the entire interstate system with allocation to Nevada. The three indicators of value for the system determined by the N.T.C. and the consultant are in relatively good agreement even though the capitalized earnings were determined on the basis of net operating revenue before depreciation and income taxes by the consultant. In the estimation of full value the consultant gave a little more weight to capitalized earnings than did the N.T.C. The consultant feels that this company's earning record indicates that it is very difficult for the property to make an adequate return on its rate base and that relatively low earnings are indicated for the future.

The N.T.C. used the allocation to Nevada submitted by the company that was based solely book cost of property and appears to ignore the gas sales data. The consultant used an adaption of the WSATA formula for electric companies that weights in volume of gas sold and gross revenue.

The allocation factor used by the N.T.C. allocated 70.5% of the system value to Nevada and that determined by the consultant allocated 75.14% to Nevada. Though the system value estimated by the consultant was $1,326,769 less than that of the N.T.C. the allocated value to Nevada was $2,936,835 greater than that of N.T.C.

APPRAISAL NO. 4

Southern Nevada Division of the Central Telephone Company

Appraisal No. 4 is that of the Central Telephone Company--Southern Nevada Division. The properties provide telephone service to the Las Vegas area and have no physical connection to the remainder of the company's properties in other states. The Stock and Debt indicator of value was not derived by either the N.T.C. or the consultant as the market for the company's securities is relatively inactive. If the indicator had been determined it would apply, of course, to the many diverse telephone properties of the company and finding a meaningful allocated Stock and Debt indicator of value to the Southern Nevada properties would be almost impossible.

The HCLD indicators of value of the N.T.C. and the consultant are practically in agreement but the capitalized earnings indicators differ widely. The reason for this is that the N.T.C. capitalized net operating revenue and the consultant determined a composite expectancy of the property and capitalized earnings before depreciation, income taxes, and ad valorem taxes. The history of earnings of this company is good, and the Nevada Public Service Commission recently refused an application for increase in rates mainly on the basis that the present earnings were adequate, which they also appear to be to the consultant. Under these conditions there is every reason to believe that the capitalized earnings should be reasonably close to HCLD which is comparable to rate base. The consultant's capitalized earning figure is

slightly higher than HCLD, about $5,000,000, while that of the N.T.C. is almost $39,000,000 lower. This points-up sharply how inadequate the capitalized earning indicator can be when net operating revenues are capitalized in perpetuity.

Even though the N.T.C. and the consultant gave equal weight to HCLD and capitalized earnings, the consultants value is some 20% higher.

APPRAISAL NO. 5

Calnev Pipe Line Company

Appraisal No. 5 is that of the Calnev Pipe Line Company. This company operates as a common carrier with an interstate pipeline that runs between terminals in Southern Nevada and Southern California. It also has a relatively short non-contiguous line in Wyoming.

The N.T.C. has considered the value of the Nevada properties to be equivalent to the RCNLD of these properties submitted by the company. The reasoning behind this is probably that even though the capitalized earnings are greater than RCNLD, the value of the property could not be greater than the cost to reproduce it (adjusted for depreciation).

It probably should be mentioned that HCLD is not an important indicator of value for common carrier pipelines as the I.C.C., the regulatory agency, unlike most other Federal and State regulatory bodies, uses a rate base comparable to RCNLD.

The consultant feels that it could be possible that the value for assessment purposes in Nevada could be higher than RCNLD as the statutes (NRS 361:320 subsection 1 and 2) require that the N.T.C. shall establish the valuation of such properties that are of "interstate or intercounty in nature together with their franchises". Now, it is reasonable to assume that RCNLD is the ceiling for the physical properties but it certainly would not necessarily include the value of the franchise, if any. If the capitalized earnings are greater than RCNLD part of this difference

could well be and probably is the value of the franchise. The remainder could be due to the difference between the regulatory commission's and the hypothetical purchaser's idea of a proper rate of return.

Following this line of reasoning the consultant has come up with a value that is greater than RCNLD for the system and for the portion of the pipeline properties in Nevada.

APPRAISAL NO. 6

Western Pacific Railroad System

This appraisal is that of the Western Pacific Railroad that operates in three states, Nevada, California and Utah. The appraisals of the N.T.C. and the consultant both are for the entire system. However, there is one minor difference, the consultant included two small railroads in California, the Sacramento Northern and the Tidewater Southern in the unit as these railroads are owned by the Western Pacific and are operated as part of the Western Pacific system.

Reference to the tabulation for this appraisal will show that the consultant's value is some 15% greater than that of the N.T.C. This is mainly due to the low capitalized earnings indicator of value used by the N.T.C. A check of the N.T.C. work papers shows that the capitalized earnings were not adjusted to reflect the value of the leased rolling stock. The RCNLD of the leased rolling stock is some $20,000,000. The remainder of the difference between the capitalized earnings of the N.T.C. and the consultant was due to the N.T.C. capitalizing net operating revenue and the consultant capitalizing before income tax and depreciation.

It appears also that the cost indicator of value used by the N.T.C. did not include the leased rolling stock. It is obvious that the various indicators of value must all represent the same property. If not, the final value determined has little validity. (See P. 38 WSATA Utility Valuation Report 1971).

The consultant does not use HCLD as an indicator

of value because this recorded figure for railroads is the cost of a property in which there is a great amount of obsolescence and the depreciation practices prescribed for railroads are such as to make this figure suspect as a value indicator. Railroads have no rate base as competition requires that rail rates be set in accordance to what the traffic will bear. An adequate return on recorded railroad investment would probably require that prevailing freight rates be at least doubled.

It will also be noted that the capitalization rate used by the consultant is greater than that used by the N.T.C. With all other types of companies the consultant has pretty well agreed with the N.T.C. on capitalization rates and the way in which they were determined. With railroads the N.T.C. and consultant agree on the cost of debt but not on the equity component of the capitalization rate. The equity component, as has been stated, in the band of investment method lies someplace between the two limits, the return on common equity and the earnings price ratio of common stock. Most regulated industries are allowed and can earn an adequate return on investment or cost and the return on common equity does have some relationship to the amount that the property is capable of earning. However, it is meaningless with an old established railroad. The earnings on imbedded common equity on the average are far below the earnings price ratio of the common stock as the worksheets of N.T.C. show. If the prospective purchaser, the one that is presumed to establish market value, took cognizance of this return at all it would only influence him to give less for the property. But by giving weight

to the return on common equity in the case of railroads the N.T.C. is saying in effect the less the return on the property the lower is the capitalization rate and in turn the more valuable the property is, which is contrary to fact.

By disregarding the return on common equity and using the earnings price ratio of common stock the N.T.C. would come up with about 10% for the capitalization rate as does the consultant.

The allocation factor used to arrive at value for Nevada by the consultant is less than that of the N.T.C. because mainly the consultant did not include cost of rolling stock in the cost element of the N.A.T.A. allocation formula. This is because the cost of rolling stock included in the assessee's reported cost by states is an allocation itself. Also, the inclusion by the consultant of the two small railroads in California had a minor effect.

APPRAISAL NO. 7

Western Air Lines, Inc.

This appraisal is for the Western Air Lines, Inc. There are some minor differences between the HCLD and the stock and debt indicators of value of the N.T.C. and of the consultant that are of no particular consequence.

Members of the N.T.C. staff state that airlines are the only state assessees for which the capitalized earnings are established by capitalizing net revenue before depreciation and income taxes. The consultant, of course, is in full agreement with this procedure. However, the large difference between the capitalized earnings indicators of the N.T.C. and the consultant is due to the difference in the composite expectancy of the assessee's property. The N.T.C. used 10 years. The consultant using the information published in the stockholder's report (checked by consultation with company representative) pertaining to date of acquisition and expected date of retirement and salvage value of the flight equipment and other property, calculated a composite expectancy of 6 years to be used in the calculation of capitalized earnings. The expectancy used is quite critical when the lives of property are comparatively short. The consultant's earning indicator is less than two-thirds of that of the N.T.C.

The system market value calculated by the consultant is about three-quarters of that determined by the N.T.C. but the allocated value of the consultant to Nevada is only a little over one-half of that recommended by the N.T.C. The allocation factor

of the consultant was obviously appreciably less than the N.T.C.'s.

The Committee on Allocation of Public Utilities of the Western States Association of Tax Administrators made quite a lengthy study of the allocation of airline property values to states during the period 1956 to 1960. In their report of 1960, which was adopted by the association they recommended that a three factor formula be adopted. These factors were:

1. a quantity of property factor -- equated plane hours
2. an economic factor -- ton miles
3. a terminal activity factor -- tons originated and tons terminated.

The committee (of which the writer was a member) then recommended that the plane hour factor be given a weight of 75%, the economic factor a weight of 20%, and the terminal factor a weight of 5%.

The N.T.C. uses the WSATA formula in all respects except that all factors are given an equal weight, that is 33-1/3%.

The committee's preliminary report (1958) did not include a terminal factor though it was discussed but thought to be not particularly applicable. However, before the final report was issued, at the behest of some of the state representatives a terminal factor was included at a minimal weighting of 5%.

The Committee stated in their report, Page 18, "Since the allocation is for property tax purposes and since the allocation on a quantity basis can be measured, it seems reasonable to depend primarily on the quantity factor". However, they had pointed out prior to making this statement that comparative intensity of use of a property did enhance its value and consequently

some factor recognizing this should be used even though "the matter of degree seems impossible to establish through any analytical or empirical means". They accordingly incorporated the ton mile factor in the formula and gave it a weighting of 25%, later reduced to 20% when the tons originated--tons terminated factor was introduced and given a weighting of 5%. In the writer's opinion the terminal activity factor does not introduce anything that the other economic factor, ton miles, did not include.

At any rate, the N.T.C. by giving an equal weight to all three factors indicates a lack of familiarity with the principles used in the development of the formula, at the least. Of course, they could be accused of distorting the formula for their own state's economic advantage.

APPRAISAL NO. 8

Private Car Line Companies

This valuation is for all of the thirty-two private car line companies that were assessed in Nevada for the year 1973-74.

The N.T.C. assesses all tank cars for all companies at $1,500 each, all refrigerator cars at $2,000 each, and all cars other than refrigerator cars and tank cars at $1,500 each. The number of cars to assess to each company is determined in effect by dividing the total annual accumulated mileage of each company's cars in Nevada by 300 (average daily mileage) and then by 365 (calendar days in the year) for tank cars, and for refrigerator and other cars the annual mileage is divided by 400 instead of 300. The source of these values and daily mileages seems to be lost in antiquity.

The cars of different assessees vary in size, original cost, capacity, age, accumulated depreciation, and amount of obsolescence, and as can readily be understood may vary in value from a few hundred dollars to as much as twenty-five or thirty thousand dollars each or more.

The methods and procedures used by the N.T.C. cannot help but lead to the possibility of inequities in assessments between private car companies themselves but between assessments of private car companies and those of other state assessees and locally assessed property. An examination of the tabulation of the total assessed values based on the consultant's appraisals

of private cars and those of the N.T.C. will indicate that the existence of inequities is more than a possibility, it is a fact.

Private railroad cars are readily purchased, sold, and leased. Private car companies rate of return is not closely regulated and they are able to go in and out of business with a minimum of legal procedure and difficulties. In other words, they are similar to any other private competitive enterprise. This leads to the fact that reproduction cost new less depreciation and sales are both good indicators of market value. The appraiser of this property has both of the indicators of value readily available for most types of cars.

It would not be feasible to obtain a market value for each car of fleet but it is feasible to calculate the average market value of the cars in a fleet, either for the entire fleet or by classes of cars in the fleet, that is, refrigerator cars, bunker and mechanical, tank cars, flat cars, special service cars, etc.

Each assessee can be required to furnish annually the number of cars in his fleet by classes, and original cost by years of purchase. Using this information it is not to laborious to calculate the RCNLD of the average car of each assessee by class. If the assessee provides additional information indicating more than normal obsolescence of his equipment it can be included in the depreciation. This indicator of market value can be checked by amounts charged by manufacturers of similar new equipment, or sales or leases of second-hand equipment.

An adjoining state makes such determinations of market

value of private cars and in a document that is public information includes for each private car assessee the total number of cars assessed and the total assessment. Also, the assessment ratio of 25% used is public information. With this information the average market value for the cars for each fleet used by this state can be calculated. The writer from personal knowledge knows that this market value is determined as outlined above.

The consultant using this document 1/ for the same assessment year as that indicated for the assessed values of the N.T.C. in the tabulation for Appraisal No. 8, calculated the average market values for the cars of each assessee listed in the tabulation.

Information obtained by the consultant from the railroads having lines in Nevada indicates that the present average mileage of freight trains in Nevada is about 960 miles per day instead of the 300 and 400 miles per day used by the N.T.C. As indicated in the assessment tabulation the consultant has used this 960 miles per day in his calculation of the equivalent number of cars to be assessed.

The consultant feels that the method used in Nevada to determine the average number of cars habitually in the state, that is equivalent number of cars, is a satisfactory one for a "bridge" state such as Nevada except for the fact that the average number of cars habitually in the state so determined does not include standing cars, that is cars that are not attached to a train.

1/ Recommendation for Assessment of Private Cars as of March 1, 1973. (California) State Board of Equalization.

These cars are cars that are loading or unloading or waiting to be loaded or unloaded or are merely stored until needed for service. The railroads are able to furnish a daily inventory of these standing cars. By the use of these inventories for some such staggered period as every 26 days through the year and averaging them, an acceptable count of standing cars by owner and type can be determined. (See Report of Committee on Allocation of Public Utilities, Western States Association of Tax Administrators, 1960, page 42). The number of cars so determined should be added to the "running" count.

The consultant was furnished such an inventory by one of the major railroads operating in the state for the day April 24, 1974. A tabulation follows which shows what the magnitude could be for the "standing" count of cars to be added to the running count.

VALUATION OF PRIVATE CAR LINES 1973-74

"Standing Car" Count on S.P. Transp. Co. Lines in Nevada For One Day -- April 24, 1974

Company	Number of Cars	Assessed Value Per Car	Total Assessed Value
Fruit Growers Express	1	4396	4396
General American Transp. Co.	1	3437	3437
North American Car Corp.	3	4547	13641
Pacific Fruit Express Co.	2	7612	15224
Pullman Transp. Leasing Co.	6	5628	33768
Relco Tank Line Inc.	6	6055	36330
Shippers Car Line (ACF Industries)	5	3527	17635
Trailer Train Co.	28	5285	147980
Union Tank Car Co.	2	3318	6636
Western Fruit Express Co.	2	4654	9308
TOTAL			288355

It should be kept in mind that this tabulation of "standing" cars is only for one railroad (the Southern Pacific Transportation Company). Further, it is for one day only and could or could not be a fair representation of the daily average inventory determined on an annual basis. The consultant feels that it would not be out of line for comparative purposes to add a total of $200,000 in assessed value for standing cars to the amount he has determined based on the "running" count of cars.

An examination of the tabulation of assessed values for private car lines shown under Appraisal No. 8 shows that on the basis of the consultant's calculations twelve companies were over-assessed for the year 1973-74 and twenty-two were under-assessed. On the basis of the consultant's figures the private cars as a whole were under-assessed approximately in the amount of $660,000 or 37%. If a "standing" car count had been available for the year it would probably have altered these figures to some extent in that more companies would have shown to be under-assessed. If the consultant's estimate of $200,000 for the assessed value of standing cars had been included the private cars as a whole could have been under-assessed as much as $860,000 or 48%.

PART IV

EQUITY BETWEEN ASSESSMENTS OF VARIOUS STATE ASSESSEES

Are the valuation methods and principles and the interstate allocation methods used by the N.T.C. such as to provide equity between the various utilities and railroads

By giving consideration to the preceding sample appraisals and the comparisons between the values and methods of the N.T.C. and the consultant it should be possible to come to some conclusions.

Large Electric Systems

For the large electric system sampled (Appraisal No. 1) the N.T.C. and the consultant's final market values are not too far apart, about 5%. Based on this sample the possibility for inequity for large electric properties does not seem too great.

Smaller Electric Companies

For the smaller electric company, with gas and water properties (Appraisal No. 2) the consultant and the N.T.C. have about a difference of 14% in value for the Nevada electric properties, 8% for the gas, and are practically in agreement in the value for water properties. The difference in the value of the electric portion does indicate a great possibility of inequity in assessments for this type of company. Basically, the fault lies with the method of valuation, that is a poor selection of the "unit" to be valued, and then the necessary allocation to the operating units in Nevada.

Gas Systems

The sample appraisal (Appraisal No. 3) for a gas company, with lines spreading over a large geographical area and of comparatively large value, compared with that of N.T.C. does not show a great difference in system values, in fact, they are practically in agreement. The difference in allocated values to Nevada is somewhat greater due to the use by the N.T.C. of a poor allocation method. While the difference between the allocated value is only about 5%, it does indicate the possibility of inequity.

Telephone Companies

For one of the two telephone companies having the greatest amount of property in the state, the appraisals (Appraisal No. 4) of the N.T.C. and the consultant show a great difference, over 20%. This particular appraisal points up the inadequacy of the method of capitalization of earnings used by the N.T.C. that is the capitalization of net operating income. The N.T.C. appraisal does indicate inequity between this company's assessed value and that of other utilities.

Pipe Lines

In effect, the N.T.C. did not make an appraisal for the Calnev Pipe Line Company, the company whose properties were selected for Appraisal No. 4. The consultant did make a system appraisal and allocated this value to Nevada by use of the WSATA formula. The N.T.C. used the RCNLD of the properties in Nevada submitted by the assessee as market value. There was nothing wrong with this if RCNLD is considered to be the ceiling for

value. The consultant feels that for this type of company that RCNLD is probably not the ceiling and determined his market value accordingly. The consultant's value is 12% greater than that of the N.T.C. which is great enough to indicate inequity in assessment.

Railroads

The appraisal of the N.T.C. for the railroad for which the consultant made an appraisal (Appraisal No. 6) was not fully adequate. An appreciable portion of the property to be appraised was left out of two of the indicators of value used. Further, if a third indicator of value had not been weighted in - cost less depreciation - which the consultant considers unacceptable unless some adjustment is made for obsolescence, the market value found by the N.T.C. would have been greatly less than it was which was already 16% less than that of the consultant. This assessment of the N.T.C. did result in inequity in assessment between utilities.

Airlines

The airline assessment of N.T.C. compared with that derived from the appraisal and allocation used as a sample by the consultant indicates a very serious inequity in assessment. The N.T.C. arrived at a system value far too high due to an error in judgment as to future expected life of the property. Then by use of what the consultant feels was a discriminatory weighting of elements in the interstate allocation formula, far too much value was allocated to Nevada. The assessment of the N.T.C. approached

being almost twice that of the consultant.

Private Car Lines

The method of valuation of private car lines by the N.T.C. results in inequity in assessments between car lines and other utilities. Even though, obviously, the cars of various companies may and do vary widely in value, the N.T.C. valued them all the same by class. The values of the cars were very low but the average daily mileage used by the N.T.C. in the determination of the equivalent number of cars to be assessed was not realistic and resulted in a far too great a number of cars. However, the over-count of the cars did not outweigh the low average assessed value of the cars and the N.T.C. total assessed value for private cars was less than three-quarters of what the assessment would have been had the assessment been based on the consultant's appraisal (Appraisal No. 8).

Summary of Conclusions

In summary, the sampling of the consultant indicates that for electric and gas companies the principles and methods of valuation used by the N.T.C. do not result in too much inequity in assessments between utilities. However, the interstate allocation methods tend to result in some inequity. On the other hand, the sampling does indicate for telephone, pipeline, railroads and private car companies that either or both the methods and principles of valuation and the interstate allocations of property used by the N.T.C. have resulted in inequity in assessments to a greater or less degree.

PART V

EQUITY BETWEEN ASSESSMENTS OF STATE AND LOCALLY ASSESSED PROPERTY

If it could be established that the N.T.C. was determining utility assessments based on acceptable market values and the local assessors were basing their assessments on current market value of common properties, and both state and local agencies were using a common assessment ratio, there would be no doubt that as far as assessments were concerned, equity existed between all properties subject to ad valorem assessment in Nevada.

As far as state assessed property is concerned the question as to whether or not the N.T.C. is basing assessments on acceptable market values has been discussed in Part IV. It is not within the scope of this report to investigate local assessment practices but fragmentary information gathered by the consultant raises doubt if locally assessed property assessments are based on fully current market values, particularly in the outlying counties. The reason seems not to be so much a lack of will to keep appraisals current but a shortage of competent staff and inadequate budgetary provisions to do the job.

Further, equity is not possible if agricultural lands are to have their assessed value established on some base other than market value. It appears to the consultant that while the intent of the Nevada statutes, NRS 361.325 subsection 26, is commendable, the law could be unconstitutional.

There are grave doubts in the consultant's mind that equity exists between the assessments of common property and state-assessed property. This condition is certainly not primarily the fault of the N.T.C. and the County Assessors but results from statutory law and inadequate budgets.

PART VI

EQUITY IN TAXATION OF STATE ASSESSED AND LOCALLY ASSESSED PROPERTY

The second requirement for complete equity in assessment and taxation is that property, state assessed or locally assessed, having the same situs should be subject to taxation to the same extent and the same manner.

This means that the assessed value of public utilities and railroads must be allocated to situs in a reasonable proportion to the value of the property--that is in reasonable proportion to the amount that any situsedproperty contributes the value of the whole--the unitary value. If the allocation of assessment of state assessed property is unduly low or non-existent the other property having the same situs must take on the tax burden of the (in effect) underassessed property.

Studies made by the consultant indicate that the assessments of utilities and railroads are not generally allocated to situs in a reasonable proportion to their value. The reason that this is so is because the laws of Nevada (NRS 361.320 subsection 2) require that utility and railroad unit assessments be allocated to situs on a mileage basis.

The consultant made a study of the allocations of the unitary assessed value for the year 1973-74 of the properties of the Western Union Telegraph Company. A tabulation follows which shows the allocation made in accordance with the mileage direction of the law as interpreted by the N.T.C. to counties

and cities and by the assessee (at the request of the consultant) on the basis of actual situs of the property and cost. This tabulation shows that Clark County has no assessment at all allocated to it by the N.T.C. but actually is the situs of property with an original cost of $817,438 and a calculated allocation of assessed value in proportion to cost of $152,213. On the other hand, Eureka County has an allocated assessment made by the N.T.C. of $57,240 and is the situs of no property owned by the Western Union.

The basis of the allocation made the N.T.C. is microwave mileage and is based on the assumption that while there are no wires the microwaves transmitting intelligence must go in a straight line between two microwave station's antennas. The N.T.C. felt that the allocation had to be based on this concept after the Western Union removed the last of their poles and wire in the state, that is, the last of the tangible property upon which allocations were made. This has resulted in a rather ridiculous situation, an ad valorem tax being levied on tangible property in a taxing jurisdiction where no tangible property exists.

RE-ALLOCATION OF 1973-74 ASSESSMENT OF WESTERN UNION TELEGRAPH CO. ON SITUS BASIS COMPARED WITH ALLOCATION ON MILEAGE OF MICRO-WAVE LINE USED BY NEVADA TAX COMMISSION

	1 Assessment Allocated On Micro-wave Line Mileage	2 Situs Investment	3 Assessment Allocated in Proportion to Investment	4 Difference in Assessment (col.3-col.1)
Churchhill County				
City of Fallon	0	16807	3130	3130
Outside	116611	702739	130856	14245
Total	116611	719546	133986	17375
Clark County				
City of Boulder City	0	1500	279	279
" " Henderson	0	28899	5381	5381
" " Las Vegas	0	784264	146036	146036
" " No. Los Vegas	0	2775	517	517
Outside	0	0	0	0
Total	0	817438	152213	152213
Douglas County				
Outside	10768	282609	52624	41856
Total	10768	282609	52624	41856
Elko County				
City of Elko	0	9248	1722	1722
" " Wells	0	1430	266	266
Outside	323218	1119742	208507	(114711)
Total	323218	1130420	210495	(112723)
Esmeralda County				
Outside	0	1771	330	330
Total	0	1771	330	330
Eureka County				
Outside	57240	0	0	(57240)
Total	57240	0	0	57240
Humboldt County				
City of Winnemucca	6053	12142	2261	(3792)
Outside	153856	463685	86342	(67514)
Total	159909	475827	88603	(71306)
Lander County				
Outside	54202	370565	69002	14800
Total	54202	370565	69002	14800
Lyon County				
City of Fernly	0	4943	920	920
Outside	139325	465897	86754	(52571)
Total	139325	470840	87674	(51651)

	1	2	3	4
Mineral County				
Outside	0	12052	2244	2244
Total	0	12052	2244	2244
Nye County				
Outside	0	26799	4991	4991
Total	0	26799	4991	4991
Carson City (Ormsby Co.)				
Total	43744	19753	3645	(40129)
Pershing County				
City of Lovelock	0	3754	699	699
Outside	173148	818241	152364	(20784)
Total	173148	821195	153063	(20085)
Washoe County				
City of Reno	2494	738332	137483	134989
" " Sparks	0	97416	18139	18139
Outside	38311	18821	3505	(34806)
Total	40805	854569	159127	118322
White Pine County				
City of Ely	0	1466	273	273
Outside	0	3922	730	730
Total	0	5388	1003	1003
State total	1119000	6009392	1119000	0

The consultant made another study in which the allocated assessments of the electric properties of the Sierra Pacific Power Company in Washoe and Lyon Counties were calculated on a mileage basis and then compared with the allocation made on the basis of the actual situs of the property and its cost. A tabulation follows which shows this comparison by counties and within the counties by cities and outside. The costs and situs information was furnished by the assessee.

In this case Lyon County is the site of the large Fort Churchill electric generating plant which is one of the main sources of electric power for the Sierra Pacific system. Reference to the tabulation shows that Lyon County on the basis of the actual allocated assessment of the Sierra Pacific is only receiving about one-half the assessment base it would if the allocation was done on a cost basis. In other words, Lyon County taxpayers are subsidizing the taxpayers on the rest of the Sierra Pacific system to the amount of about $335,000 assuming a $5.00 tax rate. In as much as Lyon and Washoe counties between them account for just a little less than one-half of the total 1973-74 assessment of the Sierra Pacific electric system, Lyon County probably makes up most of that difference shown in Washoe County between the present total assessment and the lesser amount it would be under a situs cost basis of allocation.

While it would be quite laborious and time consuming to make complete studies of the allocation of assessments for all state-assessed utilities and railroads, the comparisons made for the two companies show that the tax load of common taxpayers

RE-ALLOCATION OF PORTION OF 1973-74 ASSESSMENT OF THE SIERRA PACIFIC POWER CO. ELECTRICAL PROPERTIES ON SITUS BASIS COMPARED WITH ALLOCATION ON WIRE-MILE BASIS USED BY NEVADA TAX COMMISSION

	1 Asessment Allocated on Wire-miles	2 Situs Investment	3 Assessment Allocated in Proportion to Investment	4 Difference in Assessment (col.3-col.1)
Washoe County				
City of Reno	2257118	9111995	2608761	351643
" " Sparks	761284	1485456	425284	(336000)
Outside	10126573	21410060	6129689	(3996884)
Total	13144975	32007511	9163734	(3981241)
Lyon County				
City of Yerington	145784	543383	155570	9786
Outside	6610673	46577627	13335166	6724493
Total	6756457	47121010	13490736	6734279

RE-ALLOCATION TO LYON COUNTY EXCLUSIVE OF FT. CHURCHILL ELECTRIC GENERATING PLANT PROPERTY

Lyon County				
City of Yerington	145784	543383	155570	9786
Outside	6610673	13803486	3748406	(2862267)
Total	6756457	14346869	3903976	(2852481)

is being shifted from one jurisdiction to another and one county to another because of the mileage method of allocation of state-assessed property. Only complete studies would show accurately the amount and location of the shift. Considering the characteristics of utility properties the actual effect of the mileage allocation of utility values is to shift the assessed values to the rural areas from the suburban and urban areas. While the Eureka County example is an extreme it is more characteristic than the shift in assessment that seems to be indicated from rural Lyon County to Washoe County. It is interesting to note what the results of the calculation of re-allocation of assessments would have been for Lyon County if the Ft. Churchill electric generating properties had been constructed in some location outside of the County. By again referring to the tabulation it is seen that in this event the allocation on a situs-cost basis would have been only somewhat more than one-half of that on a wire mileage basis.

At least from the information shown it is evident that the homeowners and other property owners in Lyon County and Las Vegas are helping to pay for the streets, sewers, police, fire protection, etc., in Eureka and the rural areas of Washoe County.

In conclusion, as long as utility and railroad assessments are allocated exclusively on a mileage basis there will be inequities in taxation between common taxpayers, between common taxpayers and state-assessed taxpayers, and between state-assessed taxpayers themselves, all depending upon the location of their property.

PART VII

CONCLUSIONS AND RECOMMENDATIONS OF THE CONSULTANT

It is the conclusion of the consultant that

First, there is inequity to a greater or lesser degree between the assessments of utilities and railroads made by the Nevada Tax Commission.

Second, there is inequity in taxation between state-assessed taxpayers and owners of common property, and concomitant inequity in taxation between owners of common property.

and Third, there is inequity between the assessments of state-assessed property and locally assessed property.

1. It is recommended that the N.T.C. in making their assessments adhere more closely to generally accepted valuation procedures and principles.

A review of the reasons for the consultant's belief that inequities exist between assessments of state assessees in PART IV, will show that the N.T.C. by more closely adhering to accepted valuation procedures and principles as outlined in PART II and in the WSATA Utility Valuation Report 1971, could erase most of the inequities in the valuation of the various utilities and railroads as noted in the first conclusion of the consultant.

2. It is recommended that the allocations of assessments of utilities and railroads to local taxing jurisdictions be changed from a mileage basis to a situs cost basis.

The inequities in taxation noted in the second conclusion is due to the statutory requirement that utility and railroad assessments be allocated on a mileage basis. The results of this requirement are discussed in PART VI. The consultant recommends that N.R.S. 361.320 subsections 2, 3, and 4 be repealed and a new statute enacted requiring utility and railroad assessments be allocated to situs in a reasonable proportion to the amount that the situsd property contributes to the unitary value of the property.

3. It is recommended that remedial action be taken to alleviate the adverse effects of the shifting of the tax base caused by implementation of Recommendation No. 2.

As mentioned in PART VI allocating the assessment of utilities and railroads to situs on a predominantly cost basis would probably remove some of the tax base to urban areas from rural areas further reducing the quite meager tax base of many of the rural counties. The consultant suggests that the county governmental functions of such counties be combined with other counties until a sufficient tax base is obtained to take care of governmental functions that are primarily related to property, such as drainage districts, street and road maintenance, lighting, policing, fire protection, etc.

Nevada has an excellent system for financing school costs. It is a combination of support by the state general fund, local 1¢ school support sales tax, and local ad valorem taxation. The manner in which the amount of state support is determined would tend to cushion the adverse effects of the shifting of the tax base. However, the remaining portion of the school support furnished by ad valorem taxation could still be adversely effected to a greater or less extent.

The consultant suggests that consideration be given to the imposition of a state-wide ad valorem tax rate to all property, locally and state assessed, to provide all or some part of the support presently provided by local ad valorem taxation. The proceeds could be collected by the counties and turned over to the state for disbursement by the Department of Education in somewhat the same manner as they do present support, that is basically in relation to student population. In this way all property would be taxed to the same extent and in the same manner. Taxation for school purposes would be equitable and the distribution of the ad valorem tax base per student would tend to be equalized.

The use of a state-wide tax rate would make it possible to distribute to all school districts a portion of the proceeds of taxation of large isolated industrial installations such as electric power generating facilities at Hoover Dam and Fort Churchill and possible future utility and non-utility industrial installations. (see Appendix No. 2, pg. 79)

The consultant is well aware that the implementation of this suggestion would not be simple and that a thorough and complete study should be made to determine the overall tax yield, the effect on local tax rates when the state-wide school rate is included in the five dollar rate limitation, and if there is sufficient dislocation in the tax base to justify the change.

4. It is recommended that certain methods of assessment of agricultural properties be changed and a more active appraisal program for locally assessed property be initiated to relieve the inequity between assessments of state-assessed property and locally assessed property.

The inequity in assessments between state-assessed and common property, as discussed in PART V, is due in part to the statute (N.R.S. 361.325 subsection 26) that requires agricultural property to be assessed on an income basis rather than on a market value basis. In the opinion of the consultant this statute could be unconstitutional and should be repealed. Another means should be found to give relief to the agriculturist or rancher from taxes that are too high to be paid out of the return of the economic activity that he has chosen to or by circumstance has been required to devote his property.

The lack of use of current market values by the local assessor also contributes to the inequity existing between assessment of state-assessed and common property. As the consultant has noted before that this is not really included in the scope of his report, he will again venture to give his opinion. The county assessing officers should be provided sufficient funds to support a staff of competent appraisers to maintain assessments based on reasonably current market values. The consultant, after reviewing the "Local Gevernment Red Book" issued by the N.T.C. is quite aware that some counties do not have a sufficient tax base to support an adequate appraisal staff. As has been mentioned above, the answer may be to combine the county governmental functions of several counties until the tax base is sufficient.

5. It is recommended that the activities of the Utility Section of the N.T.C. be extended to make possible the implementation of Recommendations Nos. 1 and 2.

The consultant has advocated the capitalization of income before depreciation and taxes which in turn calls for studies to determine the composite expectancy of the properties of all assessees. This requires that reproduction cost new less depreciation studies be made either by short-cut methods or more detailed studies by accounts. If these studies are used for allocation of assessment purposes (see below), in addition individual determinations of RCNLD must be made for situsedproperty.

In the situs allocation studies made for this survey original cost was used. Its use made possible a reasonable

quantitative comparison between situs and mileage allocation of value. However, it has been stated that allocation should be made to situs in a manner that reasonably reflected the amount the sitused property contributed to the unitary value. There are costs other than original cost that might better fulfill this requirement. Some people feel that historical cost less depreciation would be a more adequate base for allocation as it is at least related to rate base. The writer considers that reproduction cost new less depreciation provides the best basis as it places all property on a common cost level and it, therefore, measures better the relative quantity of property and hence its relative contribution to unitary value. The deduction of depreciation of course takes into account the relative future time the property has to contribute to the value, that is it makes possible to take into account the present worth of the future returns. One mile of 6" gas main, all other things being equal, contributes just as much to the unitary value as another mile of 6" gas main if both are required to carry the same amount of gas in a given period. However, if the first section was built when pipe cost $10 per ft. laid and the second section was built when pipe cost $15 per ft. laid, on an historical basis the allocated value of the first section would be only two-thirds as much as the second section (except for adjustments for different amounts of depreciation). On a reconstruction cost new basis the allocated assessment would be somewhere near the same for both sections, (again, except for adjustments for depreciation) which would be more equitable as they obviously are contributing somewhere near the

same amount to the unitary value.

In allocations of assessments, original cost of land does not adequately represent the relative importance of land, as land generally appreciates in value as time goes on rather than depreciates in value as other property. If allocation of assessments are to be made on an RCNLD basis, there is only one way to find the RCNLD of land which is, of course, market value, and that is to make a field appraisal. Even if HCLD was used as an allocation base some adjustment related to market value would have to be made as it must be taken into account that land generally appreciates and that therefor depreciation is negative.

Also, annual determinations of the RCN and RCNLD of private car fleets should be made to determine equitable assessments of this type of property. The "standing car" inventories should be maintained and current average speed of freight trains on the various railroads of the state should be checked from time to time.

6. <u>It is recommended that the staff of the Utilities Section of the N.T.C. be augmented to handle the increased workload detailed under Recommendation No. 5.</u>

If the N.T.C. is to improve its assessment procedures by more closely following accepted assessment methods and principles, the Utilities Section must have the guidance and supervision of a valuation engineer or appraiser that has had adequate experience and qualifying education in the valuation of public utility and railroad properties.

The staff should consist of three utility valuation

analysts, with primarily auditing experience to process the assessees' property statements, determine capitalization rates, prepare and process information for the determination of the indicators of unitary value, make reconstruction cost new and depreciation studies, calculate private car assessments, prepare information for presentation to the tax commission for value determinations, and prepare statements for each county showing utility and railroad assessments allocated to situs within the county

Mr. Keith Tierney, a graduate student in the Department of Economics at the University of Nevada, has adapted an allocation system used by some other states for use in Nevada. This system is based upon a map for each county upon which have been delineated all of the boundaries of the various taxing jurisdictions. This results in showing upon the map geographical areas in which a common combination of tax rates applies to property within the area. These areas are given meaningful numbers. Property reported by assessees to situs by use of these maps and numbers would be properly segregated for taxation purposes.

If the state assessees were to follow this procedure, it would very much simplify the work of the N.T.C. required to transmit allocated assessments of state assessed property to the county officials for use in taxation. Sketches of a sample county map showing the numbering system with an explanation of the allocation procedure is shown in the appendix.

In addition to the supervising valuation engineer or appraiser there should be at least one and preferably two field property appraisers to appraise all utility land and make all other necessary field inspection of utility property.

The above listed positions would require necessary stenographic and clerical support.

The present staff of the Utility Section (consisting of only two people) would make a very good base on which to build the augmented staff with its more extensive functions and activities.

Presently, the total assessed value of state-assessed utilities and railroads is approaching $400,000,000. Assuming a 35% assessment ratio this means the market value of the assessed properties is around $1,150,000,000. The total ad valorem taxes collected on these properties is nearly $20,000,000. The staffing recommended by the consultant would require a annual budget of approximately $150,000. This would be about eight-tenths of one per cent of the tax yield which would certainly not be out of line if it would result in equitable assessments and taxation of state-assessed property.

APPENDIXES

APPENDIX No. 1

GLOSSARY

Allocated Assessed Value - an arbitrary allocation of a portion of the assessed value of a unitary property to an individual item that is a part of the property.

Assessment Ratio - the ratio of assessed value to market value or full value.

Book Cost - usually original cost less depreciation.

Central Assessing Agency - a state agency that assess property required by statute to be assessed by the state, for example the Nevada Tax Commission.

Common Property - property assessed locally, that is by the county assessor.

Continuous Structure - such property as railroad track, gas mains, electric conductors, telephone wire, etc., that is generally reported by situs for assessment purposes by mileage.

Cost Factor - a factor by which the original cost of a property can be multiplied to arrive at an estimate of the cost to reproduce the property at current price levels.

Fair Return - an amount that the regulatory agency considers sufficient to provide adequate service to the consumer and to attract necessary additional capital.investment.

Fixed Property - property other than continuous structure.

Full Value - market value.

HCLD - historical cost less depreciation

Historical Cost - the actual cost to the person that first devoted the property to public service.

Leased Property - property leased to a state assessee and usually used in the primary business of the assessee, but not included in the unitary value unless adequate adjustments are made to the indicators of value.

Locally Assessed Property - property assessed by the county assessor.

Non-operative Property - property owned by a state assessee that is not used in the primary business of the assessee, and in Nevada is usually locally assessed.

N.T.C. - Nevada Tax Commission

N.T.C. Annual Report - a sworn statement filed annually with the Nevada Tax Commission by each person owning, claiming, possessing, using, controlling, or managing any state assessed property.

Property Statement - same as N.T.C. annual report.

Original Cost - in this report a synonym of historical cost.

Rate Base - the amount upon which the owners of the property subject to governmental regulation are allowed to earn a fair return.

RCNLD - reproduction cost new less depreciation

Regulatory Agencies - such public agencies as the Nevada Public Service Commission, the Federal Power Commission, the Federal Communications Commission, and the Interstate Commerce Commission.

Reproduction Cost - estimated cost to reproduce existing properties at current price levels.

State Assessed Property - property that is assessed by the Nevada Tax Commission under the provisions of the Revenue and Taxation Code, Chapter 361 Section 320.

Taxing Jurisdiction - (as used in this report) includes every city and district for which the county officials include assessments in the assessment rolls and levy taxes thereon.

Uniform System of Accounts - system of accounts prescibed by a regulatory agency. The use of the system of accounts is mandatory for public utilities and railroads.

Unitary Property - a property valued on a unit basis.

Unit - an integrated property that is operated as a whole.

Unit Value - value determined on the basis of an appraisal of an integrated property as a whole with out any reference to the value of the componet parts.

Unitary Value - unit value, generally used to denote exclusion of non-operative properties.

Utility Section - the section of the N.T.C. that performs all the technical functions concerned with the valuation and assessments of state assessed property.

Appendix No. 2

Calculations Showing Effects of a Large Utility Installation on School District Financing

It appears that several power companies are considering the construction of a large electric generating plant in Humboldt County. It is the consultant's understanding that there is concern about the fact that only one school district would be able to benefit from the tax base created instead of all school districts in the state. For informational purposes the following shows the effects that the additional tax base would have on the state support and ad valorem tax rates for Humboldt School District alone and an estimate of the amount of tax yield that would be available at ceiling rates for state-wide school support if a state-wide school tax rated was used.

Calculations Based on

1972-73 Humboldt County School District Financing

Total County (School district) Assessed Value	34,626,601.
Net Annual Basic Support determined by Department of Education	1,213,664.[1]
Less local funds available	
Total A.V. Tax 34,626,601. @ 70¢/$100	242,386.
1¢ School Support Tax	206,832.
Total State Apportionment	764,446.[1]
Total School Expenditures	
A.V. Tax @ 70¢/$100	242,386.
1¢ School Support Tax	206,832.
[2]Optional A.V. Tax @ 80¢/$100	277,013.
[2]Bond interest and redemp. @ 67.85¢/$100	234,941.
State Apportionment	764,446.
	1,725,618.

Now, assume that an electric generating plant with a market value of $150,000,000 has been constructed in the county, then

Total County (School district) Assessed Value is
34,626,601. + 150,000,000. X 35% or 52,500,000.
= 87,126,601.

Then the recalculation of the Total State Apportionment is as follows:

Net Annual Basic Support (Unchanged)	1,213,664.
Less Local funds available	
A.V. Tax @ 70¢/$100, 87,126,601. X .007	609,886.
1¢ School Support Tax (unchanged)	206,832.
Total State Apportionment	396,946.

Assuming that total expenditures are unchanged

Recap. of Total School Expenditures on new basis:	
A.V. Tax @ 70¢/$100	609,886.
1¢ School Support Tax	206,832.
Optional A.V. Tax (rate = 277,013. ÷ 87,126,601. or 31.79¢/$100	277,013.
Bond Interest and Redemp.(rate = 234,941. ÷ 87,126,601. or 26.96¢/$100)	234,941.
State Apportionment	396,946.
Total	1,725,618.

[1]See copy of Department of Education apportionment sheet following.
[2]See Local Government Red Book 1972-73 pg. 8. With minor exception all counties use full 80¢ optional rate.

Now, note that:

1) the tax proceeds at the 70¢ rate have increased by 609,886.-242,386. or $367,500
2) the State Apportionment has been reduced by 764,446.-396,946. or $367,500
3) the optional A.V. rate has been reduced from 80¢ to 31.79¢
4) the Bond interest and redemption rate has been reduced from 67.85¢ to 29.96¢

Total Estimated Tax Obligation of Electric Generating Plant if Taxed by Humboldt County Only.

A.V. Tax $52,500,000. @ 70¢/$100	367,500.
Optional A.V. Tax $52,500,000. @ 31.79¢/$100	166,897.
Bond Interest and redempt. $52,500,000. @ 26.96¢/$100	141,540.
Total	675,937.

Of the total of $675,937. that would be paid in taxes, $367,500. would be in relief of the State general fund obligation and the remainder of $308,437. would be in relief of the local taxpayers obligations.

Total Estimated Tax Obligation of Electric Generating Plant if taxed using a state-wide rate for support of all school district financing.

Estimated state-wide rate, using Humboldt County as an example, that would be possible under the $5:00 tax limitation

70¢ + 80¢ + 67.85¢ = $2.1785

Total tax obligation is $52,500,000.X .021785 or $1,143,712.

On the basis of using a state-wide tax rate the total tax yield for school financing would be greater by $1,143,712.-675,937. or $467,775.