Report to the Colorado General Assembly:

COLORADO PROPERTY ASSESSMENT METHODS

COLORADO LEGISLATIVE COUNCIL

RESEARCH PUBLICATION NO. 28

December 1958

LEGISLATIVE COUNCIL

OF THE

COLORADO GENERAL ASSEMBLY

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The Legislative Council, which is composed of five Senators, six Representatives, and the presiding officers of the two houses, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions, research activities are concentrated on the study of relatively broad problems formally proposed by legislators, and the publication and distribution of factual reports to aid in their solution.

During the sessions, the emphasis is on supplying legislators, on individual request, with personal memoranda, providing them with information needed to handle their own legislative problems. Reports and memoranda both give pertinent data in the form of facts, figures, arguments, and alternatives, without these involving definite recommendations for action. Fixing upon definite policies, however, is facilitated by the facts provided and the form in which they are presented.

LEGISLATIVE COUNCIL

REPORT TO THE

COLORADO GENERAL ASSEMBLY

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STATE OF COLORADO

Legislative Council

STATE CAPITOL - DENVER 2, COLORADO

TRANSMITTAL LETTER

December 17, 1958

Senator Ray B. Danks
Colorado Legislative Council
Denver, Colorado

Dear Senator Danks:

Transmitted herewith is the report of the Assessment Methods Committee of the Legislative Council pursuant to H. J. R. 31, which directed the Legislative Council to study: 1) the assessment methods and procedures used by the county assessors and Tax Commission; 2) the statutes concerning property assessment; and 3) the uniformity of assessments within and among the 63 counties of the state.

The assignment was divided into two parts: 1) a methods and procedures study; and 2) an assessment-sales or sales ratio study.

This report concerns the first part of the assignment, namely, the methods and procedures study. It also contains conclusions adopted by the committee as to the sales ratio study. Harold Ballard, former assessor of San Miguel County and former president of the County Assessors Association, was retained in July of 1957 to supervise the methods and procedures study. Preliminary staff work on this phase of the study was begun in July of 1957.

The 41st General Assembly, in the 1958 session, renewed the authority to conduct the over-all assessment study. Early in 1958 a Council committee was appointed to work with the staff. That committee was composed of:

Senator David J. Clarke, Chairman
Representative Ray Black
Representative Palmer Burch
Representative Charles R. Conklin
Senator T. Everett Cook
Representative R. S. Crites
Senator Fay DeBerard
Representative Guy Poe, Vice Chairman
Representative James M. French
Senator Wilkie Ham
Senator Ranger Rogers
Senator Herrick S. Roth
Representative Arthur M. Wyatt

Committee meetings were held for approximately ten days during the past year in developing the study and in considering the findings and conclusions. The committee believes that this report provides a detailed blueprint of the problems facing the State of Colorado in the administration of the property tax.

Because of limited time and funds the committee decided to postpone the utility study and recommends that the 42nd General Assembly renew the authority of the Council to complete that phase of the assessment study.

The members of the committee who attended the meeting on December 12, 1958 voted unanimously to forward the report on the following motion: "The Committee on Assessment Methods accepts the report of the staff with its findings and conclusions; and recommends that the report be transmitted to the Legislative Council with the recommendation that the General Assembly consider it fully and implement the conclusions into law as it deems necessary."

The committee also voted unanimously to recommend that the sales ratio study be continued and that the administration of this function be left in the hands of the Legislative Council for at least two years.

The project coordinator has acquired considerable information and experience during the course of this study. His contract with the Council expires April 30, 1959 so he will be available to the General Assembly for discussing the various aspects of this study until that date.

The Committee on Assessment Methods wishes to express its appreciation to the County Assessors Association, the 63 county assessors, the Tax Commission and the many public officials and private citizens who have aided the committee in carrying out the assignment.

Sincerely yours,

/s/ David J. Clarke, Chairman

FOREWORD

In studying the methods of assessment being used by the sixty-three county assessors and the Colorado tax commission, as directed by House Joint Resolution 31 passed at the First Regular Session of the Forty-First General Assembly, a special staff of the Legislative Council has spent one and one-half years in gathering a mass of information. A summarization of this information, together with findings and conclusions developed from it, is presented in the report which follows. However, a great quantity of detailed, technical material gathered during the course of this study does not lend itself to inclusion in this report, but has, nevertheless, provided the basis for many of the conclusions. These materials are available in the Council files for use by the standing committees of the General Assembly, as well as for the use of individual members.

The resolution directed the Council to contact each county assessor in the state. In the course of the study, the staff has gone to each county at least once and to most counties twice or more.

The first step in this study was a tour of the state by the project coordinator to observe assessment practices in each area and each county of the state, and to inform officials and people in all parts of the state concerning the objectives of the study. Ten regional meetings were held around the state, to which all assessors in each region were invited, and which all but three of the sixty-three assessors attended.

At the meetings the assessors, as a group, were briefed on why the problem of assessment methods was being studied, what the General Assembly hoped to accomplish by the study, and how the study would be conducted. In turn, the assessors told of the problems and conditions common to the region in which the meeting was held.

All assessors present at the meetings were interviewed individually regarding their assessment methods, qualifications for office, assessment and office staff, office space, furniture and equipment, records, and opinions and attitudes concerning property tax assessment problems.

During this first tour, in addition to the regional meetings, and the individual interviews of assessors, the offices of thirty of the county assessors were visited, three in each of the ten regions. During these visits, records were inspected and assessors and their assistants were interviewed at greater length. Particular attention was given to administrative procedures, uniformity and adequacy of office records, the use of the appraisal manual, the schedule of land valuations being used, and any assessment problems peculiar to each county.

In each of the thirty counties the coordinator also met with a representative group of local taxpayers. These people had been invited to attend the meetings, having been selected in advance with the aid and advice of the county agricultural agent, with a view to having all economic interests

and all parts of the county represented by people who were known to be interested in property tax problems. At these meetings, the coordinator explained both the sales-ratio study and the assessment methods study. Problems which might be encountered in each county in arriving at equitable assessments were discussed. A great deal of information concerning local economic conditions was gained from these meetings.

After these preliminary visits about the state, information gathered during the visits was compiled and analyzed. The sections of the Constitution and Colorado statutes relating to assessment were thoroughly analyzed. Court decisions relating to assessment were studied. The constitutions and assessment statutes of other states were examined. Tax commission policies were carefully analyzed. In particular, the Assessor's Real Estate Appraisal Manual was analyzed in detail. Similar manuals from other states were obtained and reviewed.

Many people were consulted with reference to particular problems under study. These included professional appraisers, realtors, leaders of various organized groups of taxpayers, governmental agencies possessing information which might be of use, those who participated in the formulation of policy during the reappraisal program, tax commission personnel, and leaders among the county assessors.

After outlining, in detail, the various problems, and gathering as much data as could be obtained from other sources, another field investigation in the counties was undertaken. The project coordinator and his assistant then spent three and one-half months in visiting the office of every county assessor in the state. These visitations were carefully planned and scheduled. Time was allotted to each county, varying from one-half man day in the smallest counties to ten man days in the largest. Procedures were carefully planned in advance of the visits.

Standard forms were prepared to be filled out during the visits as a matter of record and to insure uniformity of results. It was determined what people were to be consulted, other than the county assessors, and with the cooperation of the assessors advance preparations were made for such consultations.

During the visits, county commissioners, county clerks, county agricultural agents, taxpayers who had participated in the reappraisal program, and realtors, among others, were consulted with reference to various phases of the study. A mass of data was gathered from the records of the county assessors. Assessors and their assistants were interviewed concerning their assessment practices, their problems, their theories concerning assessment, and their reactions to various tentative proposals. Considerable time was spent in investigating real estate sales with reference to the accuracy of information obtained from the real estate conveyance certificates, information which had been omitted from certain certificates, the circumstances of the sale, the motivations of the buyers, and the details of the assessment.

The mass of information which was gathered has been compiled, carefully analyzed and filed. In the preparation of this report, assessment policies and practices have been summarized upon the basis of the information available, and findings and conclusions have been formulated.

In the course of the study, considerable variation has been found from county to county in the methods of assessment being used, in the exact manner of applying assessment policy in practice, and in the assessments that have been made under similar policies. In making comparisons of assessments and of methods used in making them, there has been no attempt to determine that one county assessor was correct and another was incorrect. Instead, the object has been to show that differences do exist between counties in terms of comparisons of assessed valuations, and that such differences result in lack of equalization; to determine the reasons for the differences; and to suggest improved methods and procedures designed to produce more uniform results.

In the conduct of this study, there has been close and continuous cooperation with the members of the staff who were conducting the sales ratio study. Close attention was given to the results of the sales ratio study, much attention is given to those results in the report which follows, and many conclusions with reference to the effectiveness of various methods of assessment have been drawn from them.

Harold Ballard has served as project coordinator for this study with able assistance from Peter Romboch.

December 31, 1958

Lyle C. Kyle
Director

SUMMARY OF FINDINGS AND CONCLUSIONS

Since its admission to the Union in 1876, Colorado has had a property tax which has provided a part of the revenue needed for the operation of the State government and most of the revenue needed for the operation of the governments of its counties and their political subdivisions. During its entire history the state has been confronted with problems relating to the administration of the property tax. From the beginning, efforts at the state level to achieve equalization of property tax assessments at full cash value, as required by the State Constitution, have failed to achieve that goal. A state tax commission of three members was created in 1913 to supervise the assessment of property and was given broad powers to enforce the requirements of the law. The latest attempt, a state-directed re-appraisal of all the real property in the state, which was undertaken in 1947 and made effective in 1952, resulted in considerable improvement in assessments, but failed to produce state-wide equalization of assessments.

Concern for the equalization of assessments has been heightened in recent years by ever-increasing demands for revenue from the property tax and by the development of the practice of distributing funds derived from other revenue sources to local governments upon the basis of their assessed valuations. By 1957, the concern had become so great that the Forty-First General Assembly, by House Joint Resolution Number 31, directed the Colorado Legislative Council to conduct a study of the methods and procedures being used by the county assessors and the state tax commission in assessing property for purposes of taxation. The Council was also directed to examine into the matter of uniformity of property assessments within and among the sixty-three counties of the state and to study the assessment statutes under which the county assessors and tax commission operate.

Nature of Property Tax

Basic to any study of property assessments is a recognition of certain fundamental principles of the property tax. The property tax is a tax upon property rather than upon persons. It is based upon the value of the property which is subject to taxation. The assessor assigns to each property an assessed valuation which should be relatively uniform. The assessed valuation of each property should be either its full market value, or a consistent fraction thereof. The amount of the property tax is not based upon the ability of the owner of property to pay. It is not related to the amount of governmental service provided to either the property or its owner. Assessed valuations should not be adjusted to influence the amount of taxes paid. They should merely be a basis of distributing the tax levy, whatever it may be, equitably over the property subject to the levy. The tax is administered primarily by one unit of government, the county, for the benefit of many units of government which levy property taxes--the state, school districts, municipalities, and various types of special districts.

Need for Equalization

Equalization of property assessments is a primary requisite of good property tax administration. Equalization means the assignment of an assessed valuation, to each property subject to the tax, which is uniform in comparison with other assessed valuations when compared with the average market value of the property. The purpose of equalization is to distribute each tax which is levied, over all the property upon which it is levied, in proportion to the value of the property, so that each property owner will pay his just share of the tax, no more and no less.

The problem of equalization is unavoidably state-wide in extent. This is true for a number of reasons. First, the State Constitution provides that property taxes shall be assessed under general laws which shall prescribe methods of assessment to secure assessments that are just and equalized within the territorial limits of the authority levying the tax. Second, since one of the authorities levying a tax is the state government, equalization of assessed valuations upon all property in the state is required. Third, the distribution of the major portion of state public school funds to counties is based upon the requirement that each county levy a tax of twelve mills upon its assessed valuation in order to become eligible for participation in the distribution, another tax levy which is state-wide in extent. Fourth, the territorial limits of various jurisdictions levying taxes, namely joint school, municipal and special districts, overlap to such an extent that only state-wide equalization will make possible equalization within each jurisdiction. And, fifth, equalization among all classes of property can be achieved only by state-wide equalization of all property because some classes of property are assessed by the state tax commission, and others are of necessity uniformly assessed state-wide under statutory provisions or tax commission directives.

Present Lack of Equalization

A one and one-half year study of comparative levels of assessment and of methods and procedures of assessment used by the county assessors and the state tax commission has shown that, in spite of very material progress achieved during the past decade, assessed valuations are not equalized either among or within counties. A study of all real property sales occurring between July 1, 1957, and June 30, 1958, and a comparison of sales considerations with the assessed valuations of the properties sold has shown a wide deviation in sales ratios.

This study shows that the average sales ratio throughout the state during the one year period was 27.9 per cent. Within individual counties, the average ratios varied from a low of 14.1 per cent in one county to a high of 40.9 per cent in another county, the sales ratios of nineteen counties were higher than the state average, and the sales ratios of forty-four counties were lower than the state average.

Within counties, the deviation from county averages for individual sales ratios ranged from 13.8 percentage points below the county average to 29.0 percentage points above.

Significant lack of equalization among various classes of property also was shown. Following are the state average sales ratios for the classes of property which were subjected to separate study:

Urban one-family dwellings	28.1%
Urban multi-family dwellings	31.3
Urban commercial buildings	32.0
Urban industrial buildings.....	37.1
Vacant urban land	21.4
Agricultural land having improvements	29.5
Agricultural land having no improvements	20.2
Miscellaneous rural land having improvements	25.6
Miscellaneous rural land having no improvements	16.7

The average ratio for all urban property was 29.5 per cent and the average ratio for all rural property was 24.3 per cent.

Variation among average ratios was found within these major classifications of property. For instance, within the class of urban one-family dwellings state average ratios according to date of construction were as follows:

Houses built in the 1950's	31.8%
Houses built in the 1940's	29.1
Houses built in the 1930's	27.0
Houses built in the 1910's and 1920's	24.6
Houses built prior to 1910	22.0

Methods of Assessments Prescribed by Law and by Tax Commission

Methods of assessment presently prescribed by law and by the state tax commission have been studied to determine whether such methods are designed to produce equalized assessments within and among classes of property. Methods were studied separately for all major classes of property, namely, agricultural land, extractive land, situs land, improvements on land, livestock, merchandise and manufactures, all other personal property, and public utility property.

For the assessment of property in general the tax commission has prescribed that assessments shall be made at the level of value existing in the year 1941.

For the assessment of agricultural land the tax commission has prescribed a method of appraising such land according to its capability of producing income.

For the assessment of extractive land no uniform method of assessment has been prescribed. Certain types of producing mines are to be assessed according to a statutory formula based upon the production of the year preceding the assessment. Lands producing oil and gas are assessed according to a production formula prescribed by the tax commission. The assessment of other extractive lands is left to the discretion of the assessor. There has been no provision, in tax commission policy, for adjustment of assessed valuations of extractive lands to a 1941 level of cost.

For the assessment of situs land, (which derives its value from its use as the site for non-agricultural and non-extractive type buildings and activities) the tax commission has prescribed that assessments shall be made at forty per cent of average current market value. Assessment at forty per cent of average current market value is deemed to represent an adjustment to the 1941 level of value for this class of property.

For the assessment of improvements, primarily buildings, the tax commission has published the Assessors' Real Estate Appraisal Manual which includes a detailed method of appraising improvements by classifying buildings and determining according to the classification a reproduction cost of buildings using costs of construction existing in the year 1941. This manual, with the passage of time, has become obsolete. It contains no provision for appraisal of newer types of buildings constructed with new types of materials and with new methods of construction. Its use does not produce assessed valuations which are equalized, with reference to current values, as is adequately demonstrated by the sales ratio study.

For the assessment of livestock, the tax commission publishes annually a schedule of recommended minimum average valuations per head to be used by the assessors in assessing various classes of livestock. It is intended that use of these recommendations will result in assessed valuations upon livestock which are equalized with valuations upon other classes of property. The problem of assessing above or below the recommended minimum average valuations according to the quality of livestock is left to the discretion of the individual assessors.

For the assessment of merchandise and manufactures, the law provides that the measure of value shall be the average amount of moneys and credits invested in merchandise and manufactures during the year of the assessment. Since such a measure obviously cannot be used, the tax commission has prescribed that the measure of value shall be the average amount invested during the year preceding the assessment, and that the assessment

shall be fifty per cent of such average value. It has further prescribed that the determination of the average amount invested shall be based upon at least two inventories.

For the assessment of personal property, other than livestock and merchandise and manufactures, the tax commission has prescribed the general policy that such property shall be assessed at forty per cent of cost to the owner, regardless of age or condition. Variations from this general policy have been prescribed for particular categories of personal property.

For the assessment of public utility property, which includes the property of certain types of corporations as specifically enumerated by law, such as railroads, electric power companies, telephone and telegraph companies, pipe line companies, etc., the tax commission itself is assigned by law the duty of making such assessments. It has adopted the policy of determining a value of the entire property of each corporation by considering the factors of book value of the physical plant, average market value of stocks and bonds, and capitalization of average net income for a five year period.

A portion of the value which has been determined is allocated to Colorado for the property of interstate corporations situated in Colorado. An assessment is made at forty per cent of the allocated value, and this assessment is distributed to the counties and their political subdivisions according to miles of main track for railroads, miles of wire for telephone and telegraph companies, location of property for electric companies, and various other means for other types of corporations.

Actual Assessment Practices

A careful study has been made of the actual practices of each of the sixty-three county assessors by visiting their offices, examining their records, and discussing with them their methods of assessing various classes of property. In general, it has been found that there is no uniformity of practice among assessors and that there is a general lack of exact compliance with the methods of assessment prescribed by law and by the tax commission.

Agricultural lands. The re-appraisal of agricultural lands under the methods prescribed by the tax commission has not been completely accomplished. In at least seven counties no such re-appraisal has been completed. In other counties re-appraisal has been accomplished in varying degrees.

Local advisory committees were used very effectively in some counties, ineffectively in others, and not at all in still others. Classification of lands according to production capability was very effectively accomplished in some counties and in some there was no classification at all, uniform valuations per acre being used

county-wide. The problem of obtaining sufficiently accurate data concerning average yields per acre of various crops, gross income derived from such crops, and net income realized was very great in all counties, and undoubtedly the validity of the assessed valuations determined from such data varied considerably from county to county.

As judged by sales ratios, there is considerable lack of equalization of valuations of agricultural land from county to county. The average county sales ratios for agricultural land varied from a low of 11.5 per cent in one county to a high of 44.7 per cent in another. The state average ratio for the class was 24.2 per cent. In general, ratios for irrigated lands were higher than for dry lands.

A comparison of assessed valuations of agricultural lands at county lines also showed a lack of equalization among counties. In no case were valuations comparable on both sides of a county line, and in many cases the difference was considerable.

Extractive lands. Extractive lands were not subjected to reappraisal. Assessments of producing mines are made in accordance with the method prescribed by statute. However, there is some variation in interpretation of the statute by assessors with reference to such matters as the exact accounting methods which should be used in determining "gross proceeds" and "net proceeds" for the purpose of determining an assessed valuation, the policy concerning inclusion of land within the unit assessed according to production, the manner of dividing a unit assessment according to production among counties when the production unit lies in more than one county, and the determination of which types of mines may be assessed according to production.

Lands producing oil and gas are assessed uniformly according to the method prescribed by the tax commission. Extractive lands which are not assessed according to production are assessed at the discretion of the individual assessors, and, as a result, there is much lack of uniformity in their assessments. The valuations used vary considerably from county to county; typically, a uniform valuation per acre is used within each county without regard for variations in the actual value of the land; little attention is paid to such indications of market or other value as may be available; and such valuations are not equalized with those on other classes of property.

In the assessment of severed mineral rights, some assessors assess all such rights at a minimum valuation of one dollar per acre, others assess them only upon the request of their owners, and others do not assess them.

Situs lands. The situation with reference to the re-appraisal of situs lands is very similar to that of agricultural lands. In some counties it was done in strict compliance with methods prescribed by the tax commission. In others, it was not done at all. In most counties the assessments have not been adjusted to maintain them at forty per cent of current market value. The sales ratio study shows that the state's average ratios for this class of land is 21.4 per cent for urban land and 16.7 per cent for rural land. Ratios of individual counties vary from a low of 15.3 per cent to a high of 66.7 per cent for urban land, and from a low of 6.8 per cent to a high of 60.6 per cent for rural land.

A particularly difficult problem with reference to the assessment of situs land relates to the assessment of land which has been converted from agricultural use to a situs use, such as a new residential subdivision, a commercial or industrial site. The practice of assessors in making this type of assessment is not uniform.

Improvements. Assessors are not uniformly applying the method of appraisal of improvements set forth in the Assessors' Real Estate Appraisal Manual. Classification of buildings varies considerably from county to county. Many adjustments outlined in the manual to compensate for variations are not used by some assessors. Some assessors have adopted variations of the manual for use in their counties. The policies of the tax commission with reference to allowance for losses of value because of depreciation or obsolescence are not uniformly applied.

The sales ratio study shows that the state average ratio for urban residential improvements, including land, is 28.1 per cent. Ratios of individual counties vary from a low of 15.8 per cent to a high of 49.1 per cent. Similar variations in average county ratios for commercial and industrial improvements are shown, with the state average ratios being 32.0 per cent for commercial improvements and 37.1 per cent for industrial improvements.

Livestock. In the assessment of livestock, the assessors tend to assess all livestock uniformly at the minimum average valuations recommended by the tax commission. This results in a lack of equalization of assessments within the class of livestock because of the fact that variations in quality of livestock are ignored, and variations in cost of marketing livestock from different parts of the state are also ignored.

Merchandise and Manufactures. In all counties except one, assessors are assessing stocks of merchandise and manufactures at not less than fifty per cent of the average invested in such merchandise and manufactures during the year preceding the assessment. There is considerable variation in practice in the determination of the average invested. In one county, the assessor attempts to determine the amount invested at the end of each month of the preceding year, by calculation where necessary, and to base the assessment upon the average of the twelve inventories. In many other

counties, the assessors base the assessment upon the average of twelve monthly inventories when twelve are returned to them, and upon the average of only two inventories when only two are returned. In some cases, when only two inventories are returned, the assessment is made at sixty-five per cent of the average of the two inventories. In other counties, the assessment is based upon fifty per cent of the average of no more than two inventories, even when more inventories are returned.

Other Personal Property. In the assessment of personal property, other than livestock and merchandise and manufactures, there is less uniformity in practice than with any other class of property. Some assessments are made at forty per cent of cost to the owner, without allowance for age or condition. Others are made at eighty per cent of the depreciated book value as reported by the owner of the property. In other cases, the cost of the property is converted to a 1941 level of cost and allowance is made therefrom for the age of the property. In other cases, a life schedule assessment is used, a particular item of property being assessed year after year at a given valuation without consideration of cost, age or condition. These variations in practice are found within each county as well as among counties.

Analysis of Faults of Assessment Administration

Assessment Methods. Methods of assessment currently prescribed by law, which are few, and by the Colorado tax commission are in themselves partially responsible for lack of equalization of assessed valuations. If these methods were strictly complied with and efficiently employed, equalization would still not be achieved.

The policy that assessments are to be made at the 1941 level of value is a basic cause of lack of equalization. This policy was promulgated with the adoption of the reappraisal program of 1947 to 1952. The Constitutional and statutory standard of assessment is full cash value. The Tax Commission, decided, in 1952, that the 1941 level of value represented full cash value because 1941 was the last year in which a normal level of value existed. The inflation of value which had occurred subsequent to that year was considered to be abnormal and temporary. It was felt that adoption of a standard of assessment based on 1941 value would provide a constant base which could be adhered to in spite of annual fluctuations in value and which would provide constant equalization of assessments.

However, regardless of what interpretation is given to the term "full cash value", the only test that can be applied to determine the degree of equalization is a comparison with current average market value. Assessed valuations, to be equalized, must be either at full current average market value or at some consistent portion of it. For a number of reasons, assessed valuations based upon the value of a constant base year cannot be equalized with reference to current values.

The rate of inflation or deflation of value that occurs is not the same for all classes of property. It is not even the same within a given class of property. With the passage of time, it becomes increasingly difficult to determine what was the value existing in the base year.

The method of appraisal which was developed for agricultural land does not produce assessed valuations which are equalized with reference to current value. At the time of reappraisal, it was difficult to determine with any degree of certainty the average net income of land during the base period of 1934 to 1943, inclusive. Such determination is becoming increasingly difficult. Furthermore, the relationship between values determined by capitalization of net income for that period and those which might be determined by capitalization of net income for a later period is not necessarily the same in all areas of the state because of changes in the productivity of the land, in methods of cultivation, and in costs of operation.

The methods of assessment of extractive lands are not even tied to the 1941 base year. For producing mines, the statutory formula for assessment is used without any adjustment to what might have been a 1941 level of value. Annual fluctuations in value are automatically reflected by the changing market values of the product and costs of production which enter into the determination of the valuation. The same is true of the method used in assessing land which produces oil and gas. Non-productive lands are, in general, assessed at the same valuation year in and year out. No adjustment was made in these assessed valuations with re-appraisal. They tend to be higher than present market value.

The assessment of situs lands at forty per cent of market value, if actually done, would cause these lands to be assessed at a higher level than others, judging by the sales ratio study.

The 1941 basis of assessing buildings is breaking down with time. It is impossible to determine a base-year value for types of buildings which did not exist in the base year, built partly of materials which had not been developed in the base year and with methods of construction that had not been conceived in the base year. The rates of depreciation which have been adopted do not reflect truly the loss of value which occurs with age. The basis for classification of buildings seems to lack definitiveness so that even experienced appraisers do not classify buildings with any degree of uniformity.

The prescribed policy for the assessment of livestock tends to encourage a false equalization of valuations with every head of a given class of livestock being assessed at a uniform valuation without variation for differences in quality. The prescribed method of assessing merchandise does not result in the determination of a true average of the amount of investment in merchandise, and the fifty per cent basis of assessment is high in comparison with the percentage of market value assessed on other classes of property. The use of alternate methods of assessing on other classes of personal property is inconsistent, and the more commonly used method of assessing at forty per cent of cost without allowance for age or condition certainly does not produce equalized assessments.

Insofar as the book value of physical plant is used as one of the factors in determining the value of public utility property, equalization with reference to current value is not achieved. Furthermore, it is questionable whether the equalization factor of forty per cent used for this class of property results in equalization with other classes of property. It is questionable whether the present methods of distributing assessed valuations of public utilities to counties results in equalization within each county.

Organizational Faults. The lack of uniformity in the application of the prescribed methods of assessment, which has already been explained in some detail, further detracts from the achievement of equalized assessments. What are the reasons for this lack of uniformity?

The responsibility in each county for the assessment of property rests with the county assessor. The county assessors are not uniformly well qualified to perform the duties required of them. The job of assessment has become a highly technical one. The election of assessors from among candidates who are required only to be qualified voters and to be residents of the county for one year does not assure the selection of qualified assessors. The low salaries paid do not attract and hold well-qualified people. There is inadequate provision for training those who are elected.

The election of the county assessor results in his being subjected to political pressures which may detract from his effective enforcement of equalization. The need to seek re-election periodically interferes with the performance of duty. Election also is responsible for the attitude on the part of assessors that they are responsible primarily to the people who elect them, with the result that some assessors tend to administer their offices in such a manner as to give their own constituents an advantage over those of other counties. Therefore, competitive undervaluation among counties results.

Inadequate budgets provided to county assessors handicap them in their efforts to make good assessments. They are unable to hire sufficient help in many cases. The low wages paid to their employees makes it difficult for them to hire well-qualified people. Many do not have adequate equipment to operate their offices efficiently.

Enforcement of assessment laws and policies by the Colorado tax commission is insufficiently effective. The commission, because of inadequate appropriations, is understaffed for the task of providing adequate instruction and supervision of the assessment process. It is impossible for it to inspect the work of the assessors thoroughly enough to be able to enforce equalization. Such staff as it has is insufficiently qualified for the requirements of effective administration.

Understaffing makes it impossible for the tax commission to conduct the research which is necessary for the development of methods of assessment designed to produce equalized assessments, for thorough assessment of public utilities, and for effective evaluation of assessment results.

The commission type of organization does not lend itself to effective administration. It is indecisive, unaggressive and inefficient. The combination in the same body of the separate functions of direct assessment of public utilities and supervision of local assessments, which are administrative in nature, and of equalization, which is quasi-judicial in nature, is not conducive to good government. The performance of both types of functions detracts from effective performance of either. Further, it results in the situation that the tax commission sits in judgment on its own actions when, in performing the equalization function, it compares its own assessments of public utilities with assessments made by the county assessors.

The civil service status of the commissioners results in lack of responsibility to the executive authority, the General Assembly, or the taxpaying public.

The county and state boards of equalization are ineffective bodies for the accomplishment of the purpose for which they were intended. Since these are ex officio bodies, the members of such boards devote little attention to them. The county boards are almost completely ineffective, and the state board is little better. While taking practically no positive action in the direction of equalization, the boards tend to obstruct the efforts of the assessors and tax commission to accomplish equalization.

Findings and Conclusions.

In order to provide an organization which can effectively perform the functions of assessment of property and equalization of such assessments, using methods of assessment which are designed to and will result in equalized assessments, numerous changes need to be made.

At the state level, a separation of the administrative function of assessment and assessment supervision from the quasi-judicial function of equalization and appeals should be accomplished by the creation of a department of property taxation separate from the tax commission. This department should be headed by a director of property assessment appointed by the governor and preferably exempt from civil service. The director should have the authority, subject to the approval of the governor and the availability of appropriations, to organize the department, to create or abolish positions within the department, and prescribe the duties of and qualifications for such positions.

He should have the duties and possess the power and authority to assess the property of public utility corporations, setting up a specialized staff for this purpose. He should have a research staff to which should be assigned the duty of conducting research necessary to develop methods of assessment designed to produce equalized assessments, to provide information and instructions to assessors as needed, and to effectively evaluate assessment results. He should have both a specialized and general field staff for the supervision of assessors, the inspection of their work, and the enforcement of law and the policy of the department. He should have authority to prescribe methods of assessment consistent with the provisions of law and to enforce the use of such methods.

He should be authorized and required to organize and conduct an annual school of instruction for assessment personnel at both an elementary and advanced level. He should be authorized to arrange with any institution of higher education of the state for assistance in the operation of such school. He should be required to publish and revise annually a complete manual of instructions to county assessors.

He should be made responsible for the administration of the Realty Recording Act and the conducting of a continuous sales ratio study, which should be continued as a means of evaluating assessment results and developing improved methods of assessment.

A state assessment advisory board, consisting of the three tax commissioners, six county assessors and four legislators, should be created to advise the director of property assessment on matters of assessment policy.

The tax commission should be retained to perform the function of equalization at the state level. It should have the authority to raise or lower the assessed valuations of individual properties, of classes of property, or of all the property in a county. All actions of county boards of equalization or county boards of review should be subject to approval by the tax commission. It should hear appeals from taxpayers concerning the assessments on their property, and taxpayers should have the right of appeal from local authorities in all cases. It should hear appeals from county assessors from the orders of the director of property assessment. It should hear appeals by taxpayers, county assessors or county commissioners with reference to the assessment of public utility property by the director of property assessment. It should continue to act upon petitions for abatement or refund of taxes. It should have no authority to grant increases of levy above statutory limitations, but such increases should be made only upon the vote of taxpayers who would be subject to such increased levies.

Mobile homes should be exempted from the personal property tax and should be taxed on the basis of specific ownership in all cases, with adequate provisions for enforcement.

More definite provision for notification of assessment to the taxpayer and for exercise of the right of objection by the taxpaer should be made.

Assessments should be required to be made and equalized as near to full average current market value as is administratively possible.

A general revision of assessment law should be undertaken to repeal obsolete provisions, reconcile conflicting provisions, clarify ambiguous provisions, obtain a logical arrangement, and incorporate such reforms as are deemed necessary.

The tax commissioners should be exempted from civil service status. They should be responsible to the governor for satisfactory performance of their assigned functions. Provisions should be adopted by law for enforcement of penalties upon both the tax commission and the director of property assessment for failure to enforce assessment laws, and for the manner of removal for incompetence and neglect or refusal to perform their duties.

Both the county boards of equalization and the state board of equalization should be abolished by constitutional amendment. In place of the county board of equalization there should be created a county board of review composed of five members who are representative of taxpayer interests and who are selected by representatives of the various units of government levying taxes within a county. This board of review should hear all appeals of taxpayers objecting to assessments upon their property and should equalize the assessments in the county, subject to the approval of the director of property assessment and the tax commission. It should also act in an advisory capacity to the county assessor in matters of local assessment policy.

It should be provided by law that no person shall be eligible to be elected as county assessor who has not been examined and certified as eligible for election by the director of tax assessment. A proposal for amendment of the State Constitution should be submitted to the electorate providing for the appointment of county assessors by county conference boards composed of representatives of all units of government levying a tax within each county, except the State, from among candidates who have been examined and certified as eligible. Such assessors should be appointed for an indefinite term, subject to removal by the appointing authority at any time for cause as provided for by law.

Adequate appropriations should be made by the General Assembly to the department of property taxation and adequate budgets should be approved by county commissioners for the county assessors to permit them to perform adequately the duties which are assigned to them. The salary scales of the tax commissioners, director of property assessment, their employees, the county assessors and their employees should be re-evaluated in light of the need to attract and hold competent people. The Constitution should be amended to permit the salaries of county assessors to be increased or decreased at any time and to permit the General Assembly to consider any pertinent information in classifying counties for the purpose of setting scales of salaries for county assessors, as well as other county officers.

Land should be classified for purposes of assessment as agricultural, extractive or situs according to its use, as previously defined. Agricultural land should be assessed according to its capability of producing income through the production of agricultural products or the grazing of livestock. For purposes of such assessment, the land should be classified according to its production capability; and within each area in which

similar conditions of agricultural production prevail, each class of land should be assessed at a valuation per acre determined by capitalizing the average net income from such class of land, under average management, with typical farming practices, during a period of ten consecutive years.

All extractive land, if producing, should be assessed according to the production of extractive materials from it during the year preceding the assessment, the basis of assessment being the net proceeds of the year preceding, with a minimum assessment of ten per cent of the gross proceeds (the value of the product at the point of extraction). Non-productive extractive land should not be assessed at a valuation which is higher in relation to its average market value than the valuation on other classes of property.

All situs land should be assessed according to its average market value for the purpose for which it is used.

Improvements should be assessed according to their reproduction cost at the current level of costs with allowance for loss of value due to age, wear and tear, loss of utility, obsolescence, or local economic conditions, as determined by a continuous study of real property sales. A new manual for the appraisal of improvements based upon current costs of construction should be developed and revised annually.

The combined assessed valuations of improvements and land associated with them, composing an operating agricultural, extractive, commercial, industrial or residential unit, should not be higher in relation to the average market value of similar properties similarly situated than are those of other units.

Livestock should be assessed in such a manner as to reflect variations in actual value. Merchandise assessments should be based upon an average of inventories at the end of each month of the year preceding the assessment, actual or calculated. Other personal property should be assessed according to its cost, converted to the current level of cost, and adjusted for loss of value due to age, actual condition, and obsolescence.

In view of the difficulty of assessing personal property equitably, some consideration should be given to the possibility of adopting some other form of taxation on this class of property, in lieu of the property tax, such as a transaction tax, particularly in the case of merchandise and manufactures.

A further, full-scale, study of the assessment of public utility property should be undertaken to determine: the best methods of value determination; the method of assessing utilities and equalizing these valuations with other property; the allocation of this State's share of the total value of interstate systems; and the distribution of the assessed valuations to the political subdivisions.

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I

THE HISTORY OF THE PROPERTY TAX IN COLORADO

From 1876 to 1947[1]

When Colorado became a state in 1876 its Constitution authorized the General Assembly to establish a uniform system of property taxation. It provided that all property, unless specifically exempted, was to be assessed at a just value. It provided for specific exemptions of: 1) personal property for each head of a family to the amount of $200; 2) ditches, canals and flumes used by the owners for irrigation; 3) mines and mining property for a period of ten years; 4) public property; and 5) property used solely for religious worship, for schools or for strictly charitable purposes, and cemeteries not used or held for private profit, unless provided by law.

The office of county assessor was created by the Constitution. It provided that the board of county commissioners should act as a county board of equalization to equalize valuations within each county. It created an ex officio state board of equalization consisting of the governor and four other elected state officials. It provided that valuations should be equalized at full cash value.

The General Assembly enacted laws to initiate the administration of the property tax. County assessors, elected for a term of two years, were given the responsibility of determining the valuation of all property, real and personal. These valuations were to be adjusted by a county board of equalization and the differences among counties were to be equalized by the state board of equalization.

"This administrative procedure was intended to insure assessment at full cash value of all property in each county of the state. However, in practice the procedure broke down. County assessors, always under pressure from property owners, began a competitive race with each other to underassess property in order to reduce, in each case, the county's share of taxes paid to the state government. Because the same economic pressures and interests were present when equalization was attempted by the county commissioners, no correction of the inequality as between counties was achieved on this level."[2]

Early Attempts at Equalization

The state board of equalization was confronted early with the responsibility of attempting to force county assessors to make full-value

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1. The following history is summarized from Crockett, Earl C., Taxation in Colorado, 1947.
2. ibid, p. 13.

assessments in order to obtain equalization among the counties. As early as 1876 the state board detected property tax inequalities and ordered changes in assessments to the degree that the sum total of all county assessments was greater after the equalization than before. The question of constitutionality was raised, and in 1877 the court ruled that the board had no power to increase the aggregate valuation of the state.[3] The board, being composed of ex officio members, who had other duties, decided that nothing could be done. Consequently, nothing further was attempted toward state equalization for over twenty years.

The depression of the 1890's put a severe strain upon the tax structure, causing a shrinkage of revenue due to reduced valuations of property and to tax delinquency. County assessors became reluctant to raise valuation even after several years of economic recovery. At the same time governmental functions were expanding and the need for revenue was increasing. As a consequence, by 1898 the General Assembly found itself appropriating $472,555 in excess of tax receipts.

Finally, in 1899 the state board of equalization made another effort to equalize values. This time it changed the assessment of certain classes of property in the various counties. In an appeal made to the courts, the state supreme court affirmed its earlier decision and ruled that this type of equalization was likewise unconstitutional.[4]

Thoroughly discouraged in its efforts to equalize property valuations, the board adopted the following resolution: "Whereas every effort of the said Board of Equalization since its establishment has been invalidated by adjudication of the Supreme Court, therefore be it resolved, that in the judgment of this board the power of said board to equalize and adjust can only be made effective by constitutional amendment or by legislative enactment specifically designating its powers and directing the method of the performance thereof."[5] After this formal declaration assessments grew steadily worse from the standpoint of equality among the various counties.

Legislative Action

In 1900 Governor Thomas appointed a special revenue commission to study the problem and to make recommendations for tax reform. The commission's report led to the drafting and adoption of a new revenue bill in 1901. This new law amended the property tax by providing for the appointment of a state board of assessors to supervise and administer tax assessments.

Through the efforts of this board of assessors, the assessed valuation of the state was increased from $216 million in 1900 to $460 million in 1901. The assessed valuations of railroad corporations were increased $89 million. The latter corporations refused to pay the increased taxes and

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3. People v. Lothrop, 3 Colo. 428 (1877).
4. People v. Ames, 27 Colo. 346 (1900).
5. Annual Report, Colorado Tax Commission, 1915, p. 9.

challenged the constitutionality of the new law. In December, 1901, the court ruled that the state board of assessors had no power under the State Constitution because county assessors had no authority outside their respective counties.[6]

At a special session of the General Assembly in January, 1902, a general revision of property tax statutes was adopted, many provisions of which have remained unchanged. The 1902 amendments attempted to strengthen the property tax by setting forth in detail a procedure for assessing property. All properties, not specifically exempted, were to be assessed annually at full, true cash value, by county assessors and their deputies; except that the properties of public utilities were to be assessed by the state board of equalization.

The first year after approval of the law (1903) the total assessed valuation of property in the state was $333 million. By 1912 it was $422 million. The 1912 valuation was still below that of the year 1901 in spite of drastic revisions in the law and even though actual wealth in the state had increased rapidly during the period.

The 1902 law had provided for an annual meeting of county assessors for the purpose of discussing common problems regarding assessments based upon full cash value. Yet the assessors in 1908 agreed among themselves to assess all property in the state at one-third of cash value.

Creation of Tax Commission

Other states were also encountering serious difficulties with their property tax systems. Many began adopting a more centralized type of assessment administration in an effort to correct some of the problems. The county assessors of Colorado, observing this development in other states, and realizing that guidance and supervision on the state level was needed if uniformity of property assessment was ever to prevail, began advocating the adoption of a law establishing a state tax commission for Colorado.

In 1911, the General Assembly created a state tax commission composed of three members appointed for six year terms.[7] In some respects this represented the beginning of a new era in property taxation. The commission was given broad powers to supervise the assessment of property, and to enforce laws relating to such assessment. In addition, the powers of the state board of equalization, except that of equalizing the assessments, were transferred to the tax commission, including the power of making original assessments of the property of public utility corporations.

The new tax commission increased the valuation of the state from $422,442,079 in 1912 to $1,306,647,430 in 1913. This resulted in local opposition. In 1915, authorities in Weld and Denver counties originated an

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6. Union Pacific Railroad Company v. Alexander 113 F 347 (1901).
7. In 1918, by Constitutional Amendment, the three tax commissioners were given civil service status.

initiated measure to abolish the tax commission. The measure was defeated by a narrow margin. Since that threat to its existence, the tax commission "has never again been quite as energetic and aggressive."[8]

Equalization Action Since 1912

In 1912 a proposal was rejected by the electorate which would have abolished the state board of equalization and placed ultimate authority for equalization in the tax commission. It would have granted the tax commission the power to adjust the valuations on classes of property. Previously, the courts had denied that the board had such power under the Constitution.

In 1914, a constitutional amendment was adopted providing that the state board of equalization has the duty "to adjust, equalize, raise or lower the valuation of real and personal property of the several counties of the state, and the valuation of any item or items of the various classes of such property." Also, that the state board of equalization ... "shall equalize to the end that all taxable property in the state shall be assessed at its full cash value", and "that the state board of equalization shall have no power of original assessment."[9] This amendment was probably intended to bestow unlimited power of equalization upon the state board of equalization. However, because of the provision that the board shall have no power of original assessment, the courts have ruled that it cannot examine the valuation of an individual taxpayer's property, but must confine its attention to the equalization of valuations among aggregates and general classes of property.[10]

In 11 of the 33 years from 1914 to 1947, the state board of equalization took no action. It ordered decreases in the assessed valuations certified to it each year from 1915 through 1922, from 1924 through 1928, from 1930 through 1933, and in 1940; a total of 18 years. It ordered increases only six times, 1923, 1934, and 1936 through 1939, in spite of the fact that assessments had consistently been less than full cash value.

During the period 1915 to 1930 reductions were made in every year but five. Almost all of the reductions benefited the public utilities. From 1931 through 1933, the reductions were made primarily on agricultural land and improvements. Increases were ordered in five of the years from 1934 through 1939, the additional assessments being placed upon public utilities. The relatively small reduction of $119,620 ordered in 1940 was upon the property of rural electrification companies.

Both Jens P. Jensen in his "Survey of Colorado State Tax System" prepared in 1930 for the Denver Chamber of Commerce, and Professor Earl C. Crockett of the University of Colorado in his report "The Colorado Property Tax'

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8. Crockett, Earl C., Taxation in Colorado, 1947, p. 20.
9. Colo. Const., Art. X, Sec. 15.
10. Boulder County v. Union Pacific RR Co., 89 Colo. 110, (1931); McGinnis v. Denver Land Co., 90 Colo. 72, (1931).

in 1947 recommended that the state board of equalization be abolished. No action has been taken as the result of either of these recommendations.

Exempting Certain Types of Property

In 1936, two classes of property upon which assessments had been extremely poor were removed from the tax base exemption.[11] These were intangible personal property, such as bank accounts, stocks and bonds, and motor vehicles.

Difficulty in discovering intangible personal property for assessment purposes, and inequities resulting from its assessment, led to the abandonment of the property tax as a means of taxing intangibles. The new state income tax was substituted in lieu of the property tax on intangibles in recognition of this inequity.

Difficulty in locating and assessing motor vehicles led to a specific ownership tax as a means of taxing them in lieu of the property tax. The specific ownership tax was required to be paid before the automobile could be registered and licensed, assuring the payment of the tax. The exemption of these two classes of property left a tax base which was more capable of being equitably assessed as a whole than before, and left the assessor more time to devote to the remaining tax base.

In spite of various reforms that had been accomplished, the level of the assessed valuation of all property in the state had become proportionately lower in relation to the estimated full cash value of such property. In 1947, Professor Crockett reported that despite an estimated increase of at least fifty per cent in actual value of property in the state from 1913 to 1941, the total assessed valuation of the state was less in 1941 than in 1913 by the amount of $179,466,627. Furthermore, despite the inflation in values during World War II, the 1946 valuation had increased only $132,520,611 above the 1913 valuation.[12]

Since 1947

Re-appraisal Program

By 1947, the situation had become so serious that the General Assembly appropriated $100,000 to the tax commission for the biennial period 1947-1949 "to defray costs and expenses of making a re-appraisal of the assessed valuation of the taxable property subject to the ad valorem tax..."[13]

With this appropriation began what will be referred to frequently

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11. Colo. Const., Art. X, Sec. 6 and 17.
12. All of preceding history is summarized from Crockett, Earl C., Taxation in Colorado, 1947.
13. Laws, 1947, Ch. 111.

throughout this report as the re-appraisal program. A department of re-appraisal was established under the tax commission, headed by a director of re-appraisals. A staff was assembled as rapidly as possible and the work of planning and putting into effect a re-appraisal of all taxable real property in the state was undertaken. During the next five years, methods of appraisals were developed to achieve the goal of uniform assessments. An Assessor's Real Estate Appraisal Manual was assembled, published and distributed to the assessors. This manual gave county assessors: 1) a system of appraising buildings according to their cost of reproduction at the 1941 level of construction costs and adjusting such reproduction costs for losses of value resulting from age, wear and tear, obsolescence and economic conditions; 2) a system of appraising agricultural lands according to their productive capability; and 3) a system of appraising other lands.

County assessors employed additional help, field crews were organized, and field men from the tax commission instructed them in the new methods and supervised them in the work of re-appraising. All buildings in the state were measured, described on a uniform property card, classified, and appraised. An inventory and classification of all lands was made. This was the first complete inventory of the taxable real property which had been made in Colorado. As a result a large number of real properties which were not on the tax rolls were discovered and placed on the rolls.

Work continued in this manner for a period of five years. Progress was slow. Much planning was required to develop satisfactory methods. Recruiting and training of men was difficult. The actual task of appraisal was tremendous.

While this program was in progress, the process of making annual assessments in the old manner continued. No part of the re-appraisal was used in actual assessments during these years, except insofar as the greater knowledge acquired concerning properties resulted in an improvement in existing assessments. The assessed valuation of the state increased from $1,259,701,414 in 1946 to $1,733,575,141 in 1951. Most of this increase, of course, reflected the increased building activity in the state during those years; however, some of it was undoubtedly attributable to improved assessment methods.

The General Assembly, after making another appropriation of $113,824 for the biennial period 1949-1951, became impatient with the delay. Sufficient pressure was brought to bear upon the tax commission to induce that body to order that the re-appraisal would become effective in 1952. The work was in various stages of completion, but not fully complete in any county. A monumental effort was made to complete the program and use the new valuations for the 1952 assessments. Since, in many counties, it was not possible to complete the work, an expedient was adopted. The valuations of property which had not been re-appraised were increased arbitrarily by a percentage corresponding to the average amount of increase on properties which had been re-appraised.

The tax commission determined that the 1941 level of cost which was used in appraising property would be used as the standard of assessment.

Therefore, the new valuations were made on a 1941 cost level, rather than the 1952 level. The commission attempted to justify the use of the 1941 level and the designation of that level as representing true cash value in this manner. The inflation in costs which had occurred in the years subsequent to 1941 was regarded as abnormal and temporary. The 1941 level was regarded as representing a normal level of value. The 1941 level of value was, therefore, declared to be "true cash value."

With the use of the new appraisals, the valuation of the state increased from $1,733,575,141 in 1951 to $2,470,879,029 in 1952. Many properties were increased more in valuation than others. The greater valuations reflected equalization efforts on properties which formerly had been under-assessed. However, the owners of properties bearing the greater proportion of the increase became very vocal in their protests. Since many errors of appraisal were made in the final rush to complete the re-appraisal, some of the protests were found to be justified. The protests caused the General Assembly in 1953 to appoint a joint committee to investigate the situation. This committee conducted an investigation and recommended to the General Assembly that special provision be made for review of the 1952 assessments and adjustment of such inequities as might be found. The General Assembly enacted a law which extended the period during which taxpayers might petition for a review of their 1952 assessments without prejudice until May 1, 1953. And it extended to September, 1953, the period during which 1952 taxes might be abated or refunded on those assessments which were found to be inequitable.[14]

During the year 1953, the assessors received numerous requests for review, and had the time consuming task of making such reviews, and such adjustments as were found necessary. An abnormally large number of abatements and refunds of taxes were allowed, and many adjustments were made in assessed valuations in 1953.

Public Utility Assessments

Because of the fact that the re-appraisal was concerned primarily with the assessment of real property by the county assessors, protests were made that the re-appraisal was unfair to the owners of locally-assessed real property. The total assessed valuation of the state on such real property was increased by 58.6 per cent from 1951 to 1952, while the assessed valuation of public utility properties, assessed by the tax commission, was increased by 19.5 per cent. The tax commission had made no significant change in their assessment of public utility properties beyond the determination that assessment at fifty per cent of the value determined by it would achieve equalization of public utility assessments with local assessments. Because of the contention that public utilities assessments were not equalized with local assessments, a series of investigations of the assessment of public utilities were undertaken.

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14. Laws 1953, Ch. 191.

During 1952, an advisory committee appointed at the request of the tax commission, composed of representatives from the Colorado Assessors' Association, the State Association of County Commissioners, the State Agricultural Planning Committee, the State Chamber of Commerce, and the Colorado Municipal League, devoted a limited amount of time to a study of public utility assessments, and issued a report in January, 1953. It reported that a detailed investigation of such assessments would involve considerable cost and many months of work by a full-time staff, and that therefore its report was limited in scope. Some criticisms were made of the methods used by the tax commission, the fact that the tax commission had inadequate staff to properly assess utilities was noted, no significant evidence of lack of equalization was presented, and a legislative study of the problem was recommended.

In 1953, the General Assembly, appropriated by House Bill No. 473 the sum of three thousand dollars to the tax commission "for the purpose of securing the services by said commission of a certified public accountant to assist it in reviewing and checking 1953 valuation statements now being filed with the commission in regard to assessments of property owned by public utilities throughout the state;"[15] and also appropriated by House Bill No. 474 the sum of three thousand dollars to the state board of equalization for the purpose of employing a competent examiner "for the purpose of reviewing, checking and making a thorough study of the re-appraisal program recently completed by the state tax commission and the assessments of property made thereunder, particularly as to the assessed valuation fixed under said program of property owned by public utilities throughout the state." [16]

The firm of Collins, Peabody and Masters, Certified Public Accountants, was employed by the tax commission under House Bill No. 473. They made an independent appraisal of fifty-seven of the companies assessed by the tax commission, using methods similar to, but not identical with those used by the tax commission, and recommended valuations which were somewhat higher than those made by the tax commission. If the appraisals recommended were accepted as the full cash value of the companies, the tax commission's assessments would have been about 45.3 per cent of full cash value.

A. G. Mott, Consulting Engineer, of Pebble Beach, California, was employed by the state board of equalization under House Bill No. 474. He made independent appraisals of four railroad companies and three electric and telephone companies whose combined assessed valuations represented seventy-five per cent of the total assessed valuations of all public utility corporations. He recommended appraisals, which if accepted as full-cash-value appraisals, would indicate that the assessed valuations made by the tax commission for 1953 were an average of forty-four per cent of full cash value.

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15. Laws, 1953, Ch. 30.
16. Laws, 1953, Ch. 193.

Since, in 1953, it was generally accepted that assessments of real property made during the re-appraisal program were at not more than forty per cent of current market value, none of these reports indicated that the public utilities were under-assessed in relation to locally-assessed property. However, since none of these investigators applied the same type of appraisal to the properties of public utility corporations as had been applied to locally-assessed real property, the critics of tax commission assessments were not satisfied.

Further Efforts Toward Equalization

In spite of the progress achieved as the result of the re-appraisal program, equalization within and among the counties still had not been achieved. In 1954, the tax commission recommended an increase of $6,235,520 in the valuation of agricultural lands in one county, the state board of equalization approving the recommendation. In 1956, the tax commission recommended increases in the valuations of seven counties which had made blanket reductions of the assessed valuations of farm improvements. The state board of equalization declined to approve these recommendations. In 1958, the tax commission recommended an increase of $10,000,000 in the locally-assessed property of one county, and the state board of equalization approved the recommendation. The county involved appealed to district court and the state supreme court at the request of the Attorney General, assumed jurisdiction, and the matter is still pending at this time.

Exemption of Household Furnishings and Personal Effects

In 1956, a constitutional amendment was adopted authorizing the General Assembly to exempt household furnishings and personal effects which are not used at any time for the production of income. This exemption was made effective in 1957 by House Bill No. 4.[17] Thus, another part of the tax base which was extremely difficult to assess equitably was eliminated.

Legislative Council Assignment to Study Assessment Methods

The 1956 amendment to Section 3, Article X, of the Constitution, exempting household furnishings and personal effects, also amended the article cited to read that taxes "shall be ... assessed ... under general laws, which shall prescribe such methods and regulations as shall secure just and equalized valuations for assessment of taxes upon all property, real and personal, located within the territorial limits of the authority levying the tax;..." In response to this amendment the General Assembly, in 1957, provided for a sales-ratio study by adoption of the Realty Recording Act.[18] At the same time the General Assembly assigned to the Colorado Legislative Council the problem of studying methods of assessment in order to determine and recommend what legislative action could be taken to promote greater equalization of assessments.

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17. C.R.S., 1953, Sec. 137-12-3.
18. C.R.S., 1953, Sec. 118-6-21 to 33.

II

THE NATURE OF THE PROPERTY TAX

The property tax is imposed upon property located within a taxing jurisdiction on the basis of the value of the property itself. For this reason, it is frequently referred to as the ad valorem tax. However, since there are other forms of ad valorem taxation, the term "property tax" will be used herein to designate this particular form of ad valorem tax.

By was of introduction to a consideration of the nature of the property tax and the many problems relating to it, there are set forth below, in brief, over-simplified form, the steps in its administration. These are the administrative steps followed in the determination of the amount of property tax that the owner of a property must pay.

Step 1. The county assessor places an assessed valuation on a property. An assessed valuation is a value assigned to a property to be used as a base for calculation of the tax. Many factors are taken into consideration by the assessor in determining the assessed valuation. For example, in determining the assessed valuation on a one-family home, the size of the house, type of construction, size of the lot, location, etc., are considered.

Step 2. After an assessed valuation has been assigned to all properties in a county, the county board of equalization reviews the results. The board looks to see that all properties are assessed at comparable valuations, and that all classes of property are assessed comparably. If inconsistencies are found, the board may adjust the assessed valuation of a property or a class of property either up or down to conform with the level of assessment for all property.

Step 3. The state tax commission reviews the assessments of each county in a similar manner. It recommends to the state board of equalization any adjustments that it feels are needed in the total assessed valuations of any counties in order to equalize the valuations among the counties.

Step 4. The state board of equalization reviews the assessed valuations of all counties, together with the recommendations made by the tax commission. If the assessed valuations of property in one county are at a lower level in relation to the true value of the property than the assessed valuations in other counties, the state board may order the valuation of that county raised to conform with the level in the other counties. The state board of equalization certifies to each county the total assessed valuation on which the tax levies are to be computed, determines the amount of the state tax levy, and certifies this levy to each of the counties.

Step 5. Each school district, each city, and each special district within a county, and the county government itself, determines the amount of money required from the property tax to operate each of the units of government during the next year, and certifies the amount to the county commissioners

The county commissioners, for each unit of government, divide the amount of money needed by the assessed valuation of all property within the unit's jurisdiction. The result is the mill levy for that unit, the rate of taxation which is applied to the assessed valuation to determine the amount of tax to be paid. For example, if the assessed valuation of the county is $50,000,000 and amount of money required for the county government is $500,000, a levy of ten mills would be set as the rate of taxation for the county government.

Step 6. All mill levies that apply to a particular property are consolidated into one total levy for that property. That is, the mill levies for the state, the county, and all other units of government in whose jurisdiction the property is situated are added together. The assessed valuation of the property is then multiplied by the total mill levy to determine the total tax that is to be paid by the owner of the property.

Step 7. The property owner pays the tax to the county treasurer, who distributes the amount paid to the several units of government participating in the tax.

Assessed Valuation

As stated above, assessed valuation is a value assigned to a property by the county assessor to be used as a base for the computation of taxes. The term "assessed valuation" is to be distinguished from the term "value." The latter term includes the former, but is not synonymous with it. Value, in general, means the worth of something. However, its exact meaning differs with the point of view of the person using it. It means one thing to a buyer, another to a seller, another to a banker accepting property as security for a loan, another to an insurance agent writing a policy of fire insurance, another to an owner enjoying the possession and use of property without thought of selling or mortgaging, and still another to the assessor assigning an assessed valuation for purposes of taxation.

Assessed valuation is different than a value determined from any other point of view. However, it is usually considered that assessed valuation should bear some relationship to what is known as full cash value or market value. The latter term is usually considered to mean that amount of money which will be paid for a property by an informed and willing buyer to an informed and willing seller, uninfluenced by urgency or an excessive need to buy or sell, and given a reasonable time for negotiation. Average market value, resulting from the sale of numerous similar properties, rather than the sale of a single property, is considered most desirable as guide to determination of assessed valuation.

Assessed valuation, although it is related to market value, is not market value. It may be one hundred per cent of market value (full cash value), or it may be any other portion of market value. It may be related to current market value, or it may be related to the market value of some past year or period of years.

Fundamental Principles of the Property Tax

There are certain fundamental principles which are inherent in the property tax, but which are not always understood by either the administrators of the tax or the taxpayers, and which are frequently not adhered to by administrators. These are:

1) The property tax is based upon the value of the property which is subject to the tax as represented by an assessed valuation assigned to it by an assessor.

2) The property tax is imposed upon property. Although the tax must be paid by a person, its amount is determined by the value of the property, and the tax liability attaches to and remains with the property, rather than the person. If the tax is not paid, the property can be sold, but no other remedy is asserted against the person who owns the property. Therefore, the assessor must assess property, not persons.

3) The property tax is not an income tax. It is, in no sense, based upon the ability of the owner of property to pay taxes. Insofar as income produced by the property itself influences the value of the property, that income may be considered in determining the assessed valuation of the property. However, some property is taxable which produces no income directly, and this fact does not cause it to have no value. Furthermore, the tax imposed upon property bears no relation to the total income of the owner. For instance, the income of a home owner is not determined by the value of the home in which he lives.

4) The amount of tax imposed upon property bears no relationship to the amount of service rendered by government directly to the property or its owner. Property is subject to some taxes because it, or its owner, is the recipient of a governmental service, such as fire protection, police protection, or access to public roads. But the amount of tax is not determined by the amount of service rendered to each property.

5) Assessed valuations should be determined without reference to revenue requirements. Assessed valuations should not be adjusted upward or downward because mill levies are high or low. Valuations should not be lowered in order to give tax preference to certain properties, either individual properties, or groups of properties. Valuations in a county should not be reduced for the purpose of giving its taxpayers an advantage over those at a neighboring county.

6) Assessed valuations should be equalized within the territorial limits of each governmental unit levying a tax. That is, the assessed valuations should be uniform upon all property with reference to its value, in order that each owner of property shall pay his just share of the tax.

Advantages and Disadvantages of the Property Tax

Because of some features of the property tax, it has come into considerable disrepute. It is not always equitably administered. Some classes of

property, because of their character, are able to escape bearing their full share of the tax burden. Increasing governmental costs have resulted in a great increase of the property tax burden to the extent that property owners feel that they are over-burdened in relation to persons owning little or no property. Property owners feel that they should not pay a large share of taxes for some purposes which provide services to people rather than to property as such.

These criticisms are all true in varying degrees. However, it can be said, in defense of the property tax, that it also has redeeming features. It has a greater degree of stability than any other form of taxation. The tax base can be provided by one administrative organization (the county government) for the use of all units of government, and collections can be handled by one administrative organization for the benefit of all units, so that each unit does not have to provide its own administration. The tax liability remains until paid, so that security for governmental borrowing in times of economic stress is provided by the procedure of registering warrants. It also provides acceptable security for borrowing for capital improvements through the floating of bond issues.

Most of the criticisms referred to above have been recognized and much has been done to counter them. The increasing burden of taxes upon property owners, as such, has been alleviated by the increased use of other forms of taxation for many purposes. While the property taxpayer's burden may have increased, it has not increased as much as, otherwise, it might have. Many classes of property, upon which an equitable property tax could not be effectively administered, have been exempted from property taxation, and, in some cases, subjected to other forms of taxation. Intangible personal property, motor vehicles, household furnishings and personal effects not productive of income have been exempted. At the same time, considerable progress has been made toward more equitable administration of the tax upon classes of property still subject to the property tax. However, there is much room for further improvement, and it is toward that goal that the balance of this report is directed.

III

NEED FOR STATE-WIDE EQUALIZATION

State-wide equalization of property tax assessments is a necessity for an equitable system of property taxation in the State of Colorado. Great emphasis must be placed upon this because of the widely-held misconception that assessing property is strictly an intra-county problem, that assessed valuations need only be equalized within each county.

What is meant by state-wide equalization? First, equalization means that the property of each taxpayer is assigned an assessed valuation which is either its true cash value or a consistent fraction of such value, so that when a taxing jurisdiction applies a mill levy to such valuation, each taxpayer pays his fair share of the property tax burden, no more and no less. Equalization is the process of adjusting assessed valuations so that the assessed valuation assigned to each property bears the same relationship to market value as that of every other property.

Equalization does not mean that each taxpayer should pay the same dollar amount in property taxes. Obviously, the owner of a property worth $10,000 should not pay the same amount of property tax as the owner of an adjacent property worth $20,000 in the same taxing jurisdiction. Instead, the owner of the property worth $10,000 should pay half as much tax as the owner of a property worth $20,000.

State-wide equalization means the extension of the process of equalization to include all the property in the state. Such equalization of assessed valuations must exist between each and every property, between each and every class of property, and between the property in each and every county in the state.

There are five basic reasons why assessing of property is an inter-county problem, and why assessed valuations must be equalized state-wide. First, the Constitution of the State of Colorado requires all property to be assessed at a uniform valuation. Second, the state levies a tax upon property. Third, the distribution of state school aid to local school districts is based upon the results of the assessing process. Fourth, there are ninety-three special districts in Colorado that embrace parts, or all, of two or more counties. Those districts depend on the property tax as the primary source of revenue. Fifth, a significant part of the assessed valuation of all property in the state is assessed on a relatively uniform basis regardless of the county in which the property is located.

The Constitutional Requirement of Equalization

The State Constitution in Article X, Section 3, as amended in 1956, provides that "All taxes...shall be levied, assessed, and collected under general laws, which shall prescribe such methods and regulations as shall secure just and equalized valuations for assessments of taxes upon all property, real and personal, located within the territorial limits of the authority levying the tax." (Emphasis supplied.)

Under the provisions of this section, the General Assembly has the duty to legislate toward the end of securing equalized valuations upon all property located within the jurisdiction of any governmental unit levying a tax, from the smallest cemetery district to the state itself.

The State Property Tax

The State of Colorado levied 3.56 mills on all taxable property in the state in 1957. The revenues from that levy, approximately $12 million, provided operating money for several state educational institutions and several state departments and also provided for buildings in numerous state institutions and departments. All property in the state must be assessed at a uniform level to provide an equitable distribution of this tax.

If the state property tax were eliminated, one of the reasons for state-wide equalization would be eliminated. The big problem connected with this proposal is finding another source of income to replace the $12 million the state is now collecting from the property tax. However, the elimination of the state property tax will not eliminate the necessity for state-wide equalization.

Distributing State School Aid

The property tax is the backbone of the revenue structure of the public school system. State aid to education was prompted by two things: 1) the necessity of guaranteeing each school age youngster equal opportunity to secure an education in those school districts not having sufficient resources from the property tax to provide that equal opportunity; and 2) an effort to relieve the property taxpayers in all school districts from some of the burden of educational costs by distributing revenue derived mainly from the income tax to local school districts.

A basic part of the present system of distributing state school aid is the requirement that each county levy a tax of 12 mills upon its assessed valuation. Therefore, equitable distribution of this particular tax requires that all property in the state must be assessed at a uniform level.

As long as the property tax remains as the major source of revenue for schools, and school districts are required to make an effort locally to support their school systems from the property tax, then it is doubtful that the property tax factor can be eliminated from the state school aid formula.

Inter-County Special Districts

Numerous joint districts have been created in Colorado for the performance of various governmental functions. Table I, below, shows the types of joint districts, the number in Colorado, the assessed valuations of the districts and the tax dollars collected from the taxpayers in these districts. Chart I, page 17, illustrates graphically the extent of the interlocking relationships of these districts.

TABLE I

Types and Number of Joint (Inter-County) Taxing Districts, 1957

Joint Districts	(A)	(B)	(C) Valuation	(D) Tax Revenue	(E) %	(F) Mills
School	53	44	$ 157,616,435	$2,474,371.60	1.5	15.70
Cities	1	2	46,207,358	577,591.98	0.4	12.50
Water Conservancy*	10	24	743,304,783	529,357.59	0.3	0.71
Water Conservation	2	18	388,796,300	72,330.40	0.1	0.18
Fire Protection	19	28	105,630,171	113,704.05	0.1	1.07
Sanitation	4	4	3,840,946	27,095.63	0.1	7.05
Cemetery	2	4	6,916,110	6,916.12	0.1	1.00
Recreation	1	2	8,675,590	34,528.85	0.1	3.98
Moffat Tunnel Impt.	1	9	731,566,703	731,566.71	0.4	1.00
Total for Joint Districts	93	51	$2,192,554,396	$4,567,462.93	2.8	2.08

(A) Number of districts
(B) Number of counties involved, in all or in part
(C) Amount of assessed valuation within districts
(D) Amount of taxes levied by districts
(E) Percentage of total property tax revenue for all purposes
(F) Average mill levy

* A new water conservancy district organized in 1958 increases the total number of districts to 94, the number of counties involved to 53.

Each district is composed of all, or part, of two or more counties and levies a tax on all the taxable property within its boundaries regardless of county lines. The water conservancy, water conservation, and Moffat Tunnel Improvement districts are more extensive, including all or part of several counties. The Colorado River Water Conservation District includes all or part of thirteen counties, and the Moffat Tunnel Improvement District includes all or part of nine counties.

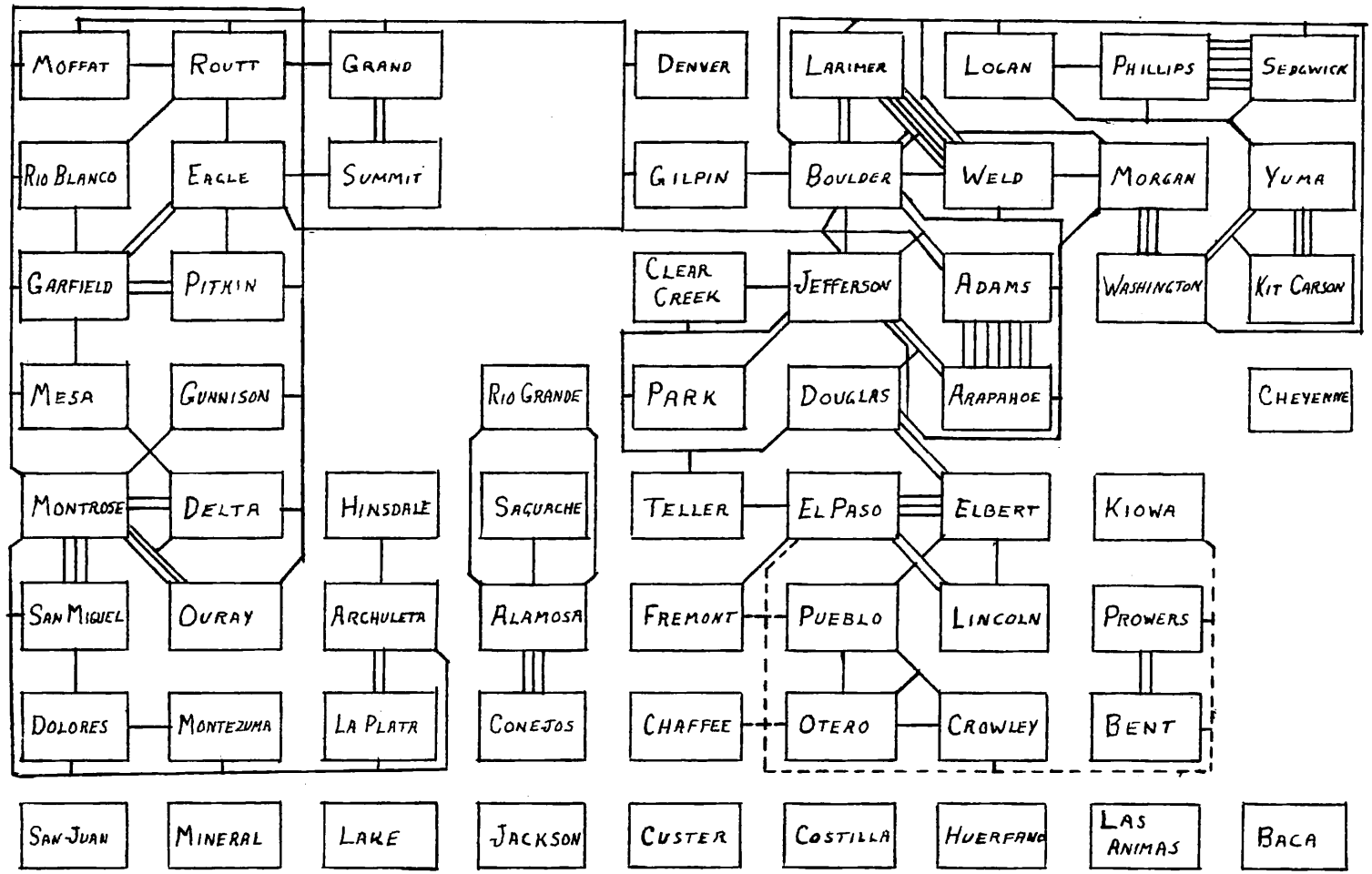
To illustrate the extent of these joint districts, only twelve counties in the state have no joint levies. Two counties are subject to eleven different joint district levies. The average number per county is 5.7.

Assessed valuations must be equalized within each of the ninety-three joint districts which now exist. In order for this to be accomplished, the assessed valuations within each county which forms a part of a given district must be equalized, one county with another. Consequently, the assessed valuations in the great majority of counties of the state must be equalized at a uniform level.

The primary requirement that valuations within each county must be equalized prevents the use of piece-meal equalization of joint district valuations.

CHART NO. I

JOINT TAXING DISTRICT CONNECTIONS AMONG COUNTIES IN COLORADO



EACH LINE REPRESENTS A JOINT DISTRICT: — BETWEEN TWO COUNTIES; ⟍ AMONG THREE COUNTIES; ✕ AMONG FOUR COUNTIES; ⟋ AMONG SEVERAL COUNTIES. THE BROKEN LINE REPRESENTS A NEW WATER CONSERVANCY DISTRICT ORGANIZED IN 1958. ALL OTHERS EXISTED IN 1957.

A given county cannot equalize a portion of its assessed valuation at one level with a neighboring county to the east because of a joint school district, at another level with a neighbor to the north because of a fire protection district, at another level with a neighbor to the west because of a water conservancy district, at another level with a neighbor to the south because of a sanitation district, and at still another level in those portions of the county that are within no joint district.

The joint-district factor in equalization cannot, like the state and public school levies, be side-stepped. This complex of districts is too firmly established to be eliminated or even reduced. It is actually becoming more extensive and more complex each year. The reorganization of school districts, now in progress, may reduce the number of joint school districts through consolidation, but is likely to add more territory to that already within joint school districts. New water conservancy districts, usually inter-county in extent, are being formed each year. Other types of special improvement districts are being formed in large numbers, some of them invariably extending beyond the limits of a single county.

The question is sometimes raised as to whether these joint levies are sufficiently large to be of great concern to the taxpayer. It is argued that the main concern should be the equalization of valuations within each county, as a separate entity, without concern for the effect of joint levies. While some of the joint levies are very small and considerable property in the state is not subject to any joint-district levies, the cumulative effect on a large part of the property in the state is substantial. The following illustrations demonstrate the importance of this problem.

County "A" assesses property at 50 per cent of full cash value and County"B" assesses property at 25 per cent of full cash value. Take two properties in each county of equal value. One property is a $20,000 residence, and the other is a farm worth $100,000.

In County "A", the $20,000 home is assessed at $10,000, and the farm at $50,000. In County "B", the $20,000 home is assessed at $5,000, and the farm at $25,000. The relative tax burden for the two types of properties in each county is shown in the table below. The mill levies are identical since the properties are located in the same three joint districts, although in different counties.

Home Worth $20,000

		County "A"		County "B"		
Tax	Mill Levy	Assessed Valuation	Amt. of Tax In Dollars	Assessed Valuation	Amt. of Tax In Dollars	Difference
Joint Sch.	15.70	$10,000	$157.00	$5,000	$78.50	$78.50
Fire Prot.	1.07		10.70		5.35	5.35
Water Cons.	1.50		15.00		7.50	7.50
Total	18.27		$182.70		$91.35	$91.35

Farm Worth $100,000

Tax	Levy	County "A" Assessed Valuation	County "A" Amt. of Tax In Dollars	County "B" Assessed Valuation	County "B" Amt. of Tax In Dollars	Difference
Joint Sch.	15.70	$50,000	$785.00	$25,000	$392.50	$392.50
Fire Prot.	1.07		53.50		26.75	26.75
Water Cons.	1.50		75.00		37.50	37.50
Total	18.27		$913.50		$456.75	$456.75

The homeowner in County "A", living in the same joint districts as his counterpart in County "B", is paying twice as much in property taxes to the joint districts, despite the fact their homes are of equal cash value. The same is true for the farmer in County "A".

Need for Equalization Among Classes of Property

The 1958 sales ratio study[1] indicates there is considerable variation in the assessment levels of most real property which is assessed by county assessors. However, there are several other classes of property which are assessed at a comparatively uniform level throughout the state, in spite of the lack of uniformity in assessments on real property. They are:

1) Public utility property, such as railroads, telephone and telegraph companies and electric power companies, which are assessed by the tax commission on a uniform basis for each company, without regard to location. While the valuation of such a company is distributed among the counties in which it has property according to one of several statutory formulas, which may have no relationship to the value of the property actually present in each county, the proportion of assessed valuation distributed to each county is not adjusted to the level of assessment maintained by the county assessor on other real property.

2) Producing metal mines which are assessed according to a statutory formula, the assessed valuation being based on the preceding year's value of mine, or to the local level of assessments on other real property. Producing oil and gas wells are assessed according to a similar formula agreed upon by the assessors concerned and the tax commission.

3) Stocks of merchandise which, by tax commission policy, are assessed at 50 per cent of their average wholesale value. While it cannot be said that all stocks of merchandise are assessed uniformly, such lack of uniformity

1. See Colorado Legislative Council Research Publication No. 27, Sales Ratio Study, Part One.

as exists is due to varying degrees of efficiency in determining the average wholesale value of the merchandise, rather than to variations in local assessment policy.

4) All classes of livestock which, with very few exceptions, are assessed at a uniform valuation per head according to class as recommended by the tax commission. The resulting valuations are not adjusted from county to county to conform to levels of assessment of other locally assessed property.

Because of the comparative uniformity of assessments on these particular classes of property, equalization of assessed valuations, even within the boundaries of one county, cannot be achieved without state-wide equalization of assessments among all classes of property. This point may be illustrated by taking the classes of property within one county and examining the results of a change in the level of assessment for locally assessed real property, and the consequent shift of tax burden among these classes of property.

The assessed valuation of a hypothetical county is made up as follows:

	Assessed Valuation	
Classes of Property	Real Property Assessed at 30%	Real Property Assessed at 20%
Public Utility Property	$ 2,000,000	$ 2,000,000
Producing Mines	3,000,000	3,000,000
Livestock	900,000	900,000
Merchandise	1,100,000	1,100,000
Other Real Property	30,000,000	20,000,000
	$37,000,000	$27,000,000

For simplicity, it is assumed that there are no other classes of property in the county than those listed. In the first column under "assessed valuation", are shown the assessed valuations of the various classes of property when assessments of locally-assessed real property, other than producing mines, are at an average of 30% of market value. In the second column are shown the assessed valuations after the assessments of real property are reduced to an average of 20% of market value. Note that this change of assessment policy has produced a reduction of $10,000,000 in the total assessed valuation of the county without affecting the assessed valuations of the first four classes of property.

The various tax levies and the amount of taxes levied, in each case, is as follows:

	Real Property Assessed at 30%		Real Property Assessed at 20%	
Purpose of Tax	Mill Levy	Taxes in Dollars	Mill Levy	Taxes in Dollars
State	3.56	$ 131,720	3.56	$ 96,120
County Public School Fund	12.00	444,000	12.00	324,000
County	10.00	370,000	13.70	369,900
Schools, Special Fund	20.00	740,000	27.40	739,800
Total	45.56	$1,685,720	56.66	$1,529,820

For purposes of this illustration, it is assumed that there is in this county a single school district, and levies of towns, cities and special districts, which apply to only a portion of the valuation are omitted. Note that the state levy which is established by the state board of equalization and the county public school fund levy which is set by statute remain unchanged, producing a smaller amount of tax dollars with a lower total valuation. Since the county and special school fund levies are set to raise specified sums of money, the mill levies are increased to produce approximately the same amount of tax dollars on a lower tax base.

On the basis of the assessed valuations shown in the preceding paragraph and the taxes levied, each of the groups of taxpayers would, in each case, pay the following proportion of the total tax burden:

	Real Property Assessed at 30%		Real Property Assessed at 20%	
Class of Property	Taxes in Dollars	Proportion of Total Tax Bill	Taxes in Dollars	Proportion of Total Tax Bill
Public Utilities	$ 91,120	5.4%	$ 113,320	7.4%
Producing Mines	136,680	8.1	169,980	11.1
Livestock	41,004	2.4	50,994	3.3
Merchandise	50,116	3.0	62,326	4.1
Other Real Property	1,366,800	81.1	1,133,200	74.1
Totals	$1,685,720	100.0	$1,529,820	100.0

Note that the owners of other real property, receiving a reduction of one-third in assessed valuation, would, in consequency, benefit by a decrease in tax burden in the amount of $233,600. On the other hand, the owners of the other four classes of property, having no change in assessed valuation, would, nevertheless, pay 24 per cent more in taxes, an additional $78,000. The total tax burden in the county was decreased by $155,900, but only the owners of real property benefited from such reduction, while the burden of the others was increased.

Of the total decrease of $155,900 in taxes, $35,600 represents the loss to the state from the state levy of 3.56 mills resulting from the decrease of total assessed valuation of the county. Of course, if there were a

significant decrease in the total assessed valuation of the state, the state mill levy would be increased, but the $10,000,000 decrease in this county, by itself, would have no affect on the state levy. The remaining reduction of $120,000 is lost to the county public school fund, and must be made up by an increased amount of state aid for education. Since the General Assembly appropriates the amount of money necessary to pay the state aid, this places a ceiling on the total amount of state aid for the entire state. Distribution of a greater amount to this county means that other counties will receive less.

Conclusions

1) The State Constitution requires that the General Assembly prescribe by law methods of assessment that will secure just and equalized assessments throughout the state and within the jurisdiction of each unit of government levying a tax.

2) The complex inter-relation of units of government which levy taxes makes it essential that equalization of assessed valuations be on a state-wide basis, as well as within each individual county.

3) All factors which contribute to the need for state-wide equalization cannot be eliminated.

4) State-wide equalization cannot be accomplished merely by cooperation among county assessors.

5) Adjustment of levies to compensate for lack of equalization among counties, sometimes suggested as a solution, will not solve the over-all problem of equalization, because of the need for equalization among classes of property within each county.

IV

METHODS OF ASSESSMENT OF PROPERTY IN GENERAL

Property, Taxable and Exempt

The first problem encountered in the assessment of property is that of determining what property is taxable and, therefore, subject to assessment. Property may be defined as anything which is owned, anything of value of which a person, partnership, association, company or corporation has the right of possession and use. Anything which is property and which is not specifically exempted from taxation by law is taxable.

Property has been exempted from taxation by the Constitution and laws of the United States, and the Constitution and statutes of the State of Colorado. Such exemptions fall into three main types: (1) those which are based upon the ownership of the property; (2) those which are based upon the nature of the property; and (3) those which are based upon the use of the property.

Exemptions based upon the ownership of the property. Generally, all property owned by the federal government is exempt. This exemption rests upon the Constitution and laws of the United States. In the case of Colorado, it is reaffirmed in the Enabling Act which authorized the People of Colorado to write a Constitution and create a state government. Section 4 of the Enabling Act provides "that no taxes shall be imposed by the state on lands or property therein belonging to, or which may hereafter be purchased by the United States." This principle is so firmly established that no reference is made to it in either the Constitution or statutes of the State of Colorado.

Other exemptions based upon ownership are: property owned by the state, counties, cities, towns, school districts, other municipal corporations and public libraries;[1] and personal property of banks.[2] Property belonging to county fair associations is, in effect, exempt from taxation. There is no specific exemption of this property by law, and no basis for such exemption in the Constitution. However, the law[3] provides that any taxes imposed upon such property shall be abated or refunded each year.

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1. State Cons., Art. X, Sec. 4.
2. Authorized by State Cons., Art. X, Sec. 17; implemented by C.R.S., 1953, Sec. 138-1-6; Sec. 38-1-23.
3. C.R.S., 1953, Sec. 137-12-6.

Exemptions based upon the nature of the property include household furnishings and personal effects which are not used for the production of income at any time;[4] intangible personal property;[5] and motor vehicles, trailers, and semi-trailers, except those "in process of manufacture, or held in storage, or which constitute the stock of manufacturers, or distributors thereof or of dealers therein".[6]

Household furnishings, by statutory definition, include "personal property in residential buildings and structures, except fixtures". Personal effects include "such tangible personal property as is, or may be, worn or carried on or about the person, and such articles as are usually associated with the person". The term "fixtures", as used in the definition of household furnishings "includes those articles, which although once movable chattels, have become an accessory to and a part of real estate by having been physically annexed or affixed thereto."[7]

Intangible personal property, defined as including "rights, credits, franchises, special privileges and special advantages attendant upon or derivable from contract rights having a value of themselves for the purpose of income or sale, or in connection with other property",[8] were exempted from property taxation with the adoption of the state income tax. One exception to this exemption is that it shall not "be construed to repeal, or in any way affect, the use or inclusion of intangible property as a factor in arriving at the valuation of public utility property assessed by the tax commission."[9]

Exemptions based upon the use of property include property, real and personal, used "solely and exclusively" for religious worship, for schools, other than schools held or conducted for private or corporate profit, and for "strictly charitable purposes", and cemeteries not used or held for private or corporate profit.[10]

Exemptions based upon nature, ownership and use of property. The law provides that ditches, canals and flumes owned and used by individuals or corporations for irrigating land owned by such individuals or corporations, or the individual members thereof, shall not be separately taxed as long as they shall be owned and used exclusively for such purposes.[11]

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4. Authorized by State Cons., Art. X, Sec. 3; implemented by C.R.S., 1953, Sec. 137-12-3.
5. Authorized by State Cons., Art. X, Sec. 17; implemented by C.R.S., 1953, Sec. 138-1-48, and 137-12-3.
6. State Cons., Art. X, Sec. 6.
7. C.R.S., 1953, Sec. 137-12-2.
8. C.R.S., 1953, Sec. 137-12-2.
9. C.R.S., 1953, Sec. 138-1-48.
10. State Cons., Art. X, Sec. 5; C.R.S., 1953, Sec. 137-12-3.
11. State Cons., Art. X, Sec. 3.

Partial or temporary exemptions. A residence, and the land upon which it is erected, owned by a church or synagogue organization, while used solely and exclusively as a residence by a minister, preacher, priest or rabbi actually serving the organization as such is exempt to the extent of an assessed valuation of six thousand dollars.[12]

"The increase in value of private lands caused by the planting of trees shall not be taken into account in valuing such lands for taxation for a period of thirty years from the date of planting unless prior to the expiration of thirty years, any of such trees shall become sufficiently mature as to be of economic use."[13]

Classification of Property for Taxation

The assessment of property is a complex problem because the property which is assessed is so varied in nature. Different types of property, by their nature, require different methods of assessment. Therefore, the first step in assessing property, or in studying the assessment of property, is to classify the property according to the characteristics which determine the methods which are to be used. For this purpose the law classifies property into the two broad classes of real estate, including land and improvements on land, and personal property, and recognizes the separate assessment as a class of property, the property, both real and personal, belonging to public utility corporations.

The tax commission is authorized by law to classify property for purposes of assessment within these broad categories. The commission, in 1958, prescribed eighty-eight different classifications: twenty-two classifications of land, eight of improvements, forty-five of personal property, and thirteen of public utilities. For the purpose of discussing methods of assessment in ensuing chapters, property has been divided into the following broad classes, somewhat different than the classifications prescribed by the tax commission, each of which constitutes a separate problem in assessment methods: 1) agricultural land, 2) extractive land, 3) situs land, 4) improvements, 5) personal property, and 6) public utilities.

The first three are land classifications based upon the type of use from which value is derived. Agricultural land is that land which is used for the production of agricultural products or the grazing of livestock, or is held principally for such use, and which derives its value from its capability for producing agricultural products or grazing of livestock. Extractive land is that land, including mineral interests, which derives its value from the extraction or removal of an irreplaceable portion of the land itself, or a product of the land, such as timber, which requires many years for replacement. Situs land includes all land which is neither

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12. C.R.S., 1953, Sec. 137-12-4.
13. C.R.S., 1953, Sec. 137-12-5.

agricultural nor extractive. It derives its value from the use of its surface as the site for buildings not agricultural or extractive in use, or as the site of a non-agricultural or non-extractive activity, such as commercial, industrial, residential, or recreational.

Improvements on land consists mainly of buildings erected upon the land.

Personal property is a broad class consisting of all property not included in the classes of land or improvements, and characterized primarily by mobility. This class, for purposes of discussing assessment methods, is divided into the sub-classes of livestock, merchandise and manufactures, and all other personal property.

The class of public utilities, such as railroads, electric power companies, telephone and telegraph companies, car line companies, airlines, and pipe line companies, includes land, improvements and personal property of the utility companies.

Standard of Assessment

A problem which relates to the assessment of all taxable property is that of the standard of assessment which should be used. More specifically, should assessments be based upon: 1) full value; 2) a prescribed fraction of full value; 3) the level of value existing in a specific year or years; or 4) a fraction of such level? Should such standard of assessment be prescribed by the Constitution, prescribed by statute, or left to administrative determination?

Constitutional Provision. The State Constitution requires that "the state board of equalization and the county board of equalization shall equalize to the end that all taxable property in the state shall be assessed at its full cash value."[14] (Emphasis supplied)

Statutory Provision. The statutes of Colorado adhere to the "full cash value" standard prescribed by the constitution. They require the county assessor to subscribe, in person, to the statement that he has assessed the taxable property in his county "at the true and full cash value thereof."[15] They require the tax commission to "exercise supervision over the county assessors" and others "to the end that all assessment of property real, personal, and mixed, be made relatively just and uniform and at its true and full cash value" and to require them "to assess all property of every kind or character at its actual and full cash value."[16] The "full cash value" requirement is repeated with reference to the duties of the tax commission

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14. State Cons., Art. X, Sec. 15.
15. C.R.S. 1953, Sec. 137-3-40.
16. C.R.S. 1953, Sec. 137-6-12.

in reporting to the state board of equalization and the duties of the state board of equalization in equalizing the assessment of the state.[17]

The law states that "In determining the true value of taxable property, except as otherwise provided in this chapter, the market value shall be the guide. As to all classes or items of property in respect to which it cannot be fairly said to have a market value, the price it would bring at a fair voluntary sale thereof, the value of the use thereof, and the capability of use, together with any other just method of determination, may be considered by the assessor. In determining the value of taxable property in this state of corporations, foreign and domestic, the value of the capital stock and bonds of each corporation shall be received and considered, and shall be competent evidence of the value of the entire plant of such corporation, but any and all other evidence of the full and true cash value of said property, both tangible and intangible, shall be received and considered in arriving at the value of the entire plant of such corporation."[18]

"If there is no market value of the stock, then what it would bring at a fair voluntary sale, the value of the use of the property and the capability of use shall be considered, with other evidence. If neither of the foregoing methods are applicable to any given profit producing unit, corporate plant or property, then the cost of duplication or other just means, may be resorted to."[18] It also states that this section shall not apply to "mines or mining claims bearing gold, silver, lead, copper or other precious metals and possessory rights therein, but the same shall be assessed under the provisions of Article 5 of this chapter whether the same shall be owned by a corporation or not."[18]

In summation the law provides: 1) that property shall be assessed at its full cash value or true value; 2) that market value shall be the guide to true value; and 3) that in the absence of a determinable market value, the value of use, the capability of use or any other just method of determination may be considered.

Tax Commission Policy. Although the constitution requires assessment at "full cash value", which would seem to mean full market value, the tax commission has not insisted on assessing property at market value. Not since 1913, when the assessment was presumably at full market value, has the assessment level been at full market value.

The present policy of the tax commission, determined in 1951, is that the 1941 cost level represents "true cash value". The 1941 level was referred to as a normal level of values. Inflation of values which has occurred since 1941 was considered abnormal and temporary. Therefore, the 1941 level has represented true cash value, if not current market value, under tax commission policy since 1951.

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17. C.R.S. 1953, Sec. 137-6-31, 137-7-5.
18. C.R.S. 1953, Sec. 137-3-17.

In accordance with this policy, the tax commission has ordered the appraisal of buildings upon the basis of 1941 costs of construction. It has ordered that machinery and equipment, when subjected to a detailed appraisal, be appraised upon the cost of similar machinery and equipment in 1941, the actual cost at a subsequent date being adjusted to the 1941 level. It has ordered the assessment of agricultural land on the basis of average value during the ten-year period from 1934 to 1943, inclusive, which was designated as the 1941 level for that class of property. In general, the tax commission recommendations concerning the assessment of other classes of property have been designed to produce valuations at approximately the 1941 level.

To this date, neither the state board of equalization nor the courts have ordered the tax commission or the assessors to increase valuations to current market values. However, the courts in Colorado have never ruled specifically upon the question of what constitutes full cash value. Generally, the courts have dealt only with the authority of the tax commission to order assessors to increase valuations. In such cases, plaintiffs usually sought a reduction in valuations on the ground that the tax commission did not have such authority. The court has usually ruled that the tax commission has such authority, and that "it is the express duty of the commission to see that all property is uniformly assessed at its actual and full cash value".[19] But there has been no ruling defining the meaning of "full cash value". The court has not ruled on the correctness of the assessed valuation, but only upon the authority of the tax commission to order a change.

No one has ever brought a case to the Colorado Supreme Court seeking to have his valuation increased because it wasn't assessed at "full cash value". Perhaps, this is the reason that no court has ruled that assessments were below full cash value and that they should be increased to that standard.

Assessment Practice. Neither in policy, nor in actual assessment practice, is the 1941 level of assessment adhered to strictly. Agricultural land is assessed on the basis of a ten-year average of values, 1934 to 1943, inclusive. Extractive land, if producing, is assessed on the basis of its production during the preceding year; if not producing, at the discretion of the individual assessor, usually without reference to any given standard of assessment. Other lands are assessed at from five to forty per cent of current market value. Improvements are assessed on the basis of the 1941 cost of construction. The various classes of personal property are assessed

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19. Citizens' Comm. for Fair Property Taxation v. Warner, 127 Colo. 121, 254 P. 2d. 1005 (1953).

at varying percentages of original cost or current value, ranging from 65% downward. Public utility properties are assessed at 40% of the "full value" determined by the tax commission. The standards in use for each of the classifications will be examined in greater detail in the chapters relating to their assessment.

The current sales ratio study[20] shows considerable variation, from property to property, from class to class, and from county to county, in the relationship between current assessed valuations and current market values. The 1957 assessed valuations of real property are shown to be at an average, state-wide, of 27.9 per cent of the average market value of such real property as determined by conveyances of real property recorded between July 1, 1957 and June 30, 1958. The average ratio of assessed valuations to sales considerations in individual counties ranges from a low of 14.1 per cent to a high of 40.9 per cent. The average ratio of urban residential property is shown to be 28.1 per cent, of all urban property 29.5 per cent, and of rural property 24.3 per cent.

Standard in Other States. In considering what should be established as the standard of assessment, it is well to note the experience of other states. Most states, as Colorado, have the full cash value requirement, but do not adhere to it in practice.

There have been several court decisions in other states relating to this problem in recent years. In 1958 the Supreme Court of Idaho[21] ruled that "the criterion or method used in fixing cash value exclusively at replacement cost of improvements based on an index of years 1937 to 1941, less depreciation, is erroneous and not authorized by law" and "replacement cost at a fixed time, less allowed depreciation, would not in itself determine the cash value, market value, or full cash value." In new Jersey[22] and in Connecticut[23] the courts held invalid assessments made at less than the full value prescribed in those states.

Six states have adopted specified fractions of full value as standards of assessments: South Dakota, 60%; Nebraska, 35%; Arkansas, 18% to 20%; Alabama, 60%; Iowa, 60%; and Washington, 50%.

In Alabama the law requires property to be assessed at 60 per cent of its fair and reasonable market value. The most recent sales ratio study made by the Alabama Department of Revenue reveals the median sales ratio for the state to be 20 per cent. The state is presently engaged in an equalization

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20. Colorado Legislative Council Research Publication No. 27, Part I, Sales Ratio Report for 1957.
21. R. M. Farmer v. State Tax Commission, 5 ICR 135.
22. Switz v. Middletown Township, ANL, April, 1957.
23. Ingraham Co. v. City of Bristol, ANL, June, 1957.

program using as a base the values of property in the year 1940, determined to be the "fair and reasonable market value." After the assessments have been equalized on the basis of the value of 1940, "it will then be a matter of increasing all assessments percentage-wise to an amount reflecting 60 per cent of the fair and reasonable market value."[24]

In the State of Nebraska, until 1953, "the office of the Tax Commissioner operated under a law requiring assessment of all real and tangible personal property at actual value." In actual practice, the assessment level "was probably at not more than 20 per cent of actual value." In 1953 the state supreme court ruled that the law required assessment at 100 per cent of actual value. The legislature then passed a law "requiring assessments at 50 per cent of actual value." Since efforts at equalization resulted in "an average assessment of something approaching 35 per cent of actual value," in 1957, the legislature changed the requirement to "35 per cent of actual value." "Equalization of real property at the 35 per cent level has improved rapidly and they are convinced that few states can show a better record of equalization."[25]

In South Dakota, the legal assessment standard for the state is 60 per cent of the "true and full value" as established by the assessors. Ratio studies have shown actual assessment to be at 48 per cent of recorded sales. Efforts are being continued to achieve the legal standard.[26]

From these illustrations it can be seen readily that Colorado is not alone in being plagued with this problem, and that the problem has not been completely solved anywhere.

Alternative Standards of Assessment

Possible standards of assessment are: 1) full cash value (current market value); 2) a prescribed percentage of full cash value; 3) the level of value prevailing in a given year; or 4) a prescribed percentage of the level of value prevailing in a given year.

The present constitutional standard is that property be assessed at full cash value. Therefore, the legal standard cannot be anything else without a constitutional amendment. The use of the term "assessed at" precludes the possibility of enacting a statute providing that property be "valued at full cash value and assessed at" some portion thereof. "Full cash value" by any reasonable interpretation means current market value. Therefore, it appears that nothing can be done to change the legal standard of assessment except by constitutional amendment.

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24. Letter to Legislative Council dated March 20, 1958 from Chief of Ad Valorem Tax Division, State Department of Revenue, State of Alabama.
25. Letter to Legislative Council dated March 10, 1958, from State Tax Commissioner, State of Nebraska.
26. Letter to Legislative Council dated February 27, 1958, from Department of Revenue, State of South Dakota.

The arguments for use of actual full cash value, meaning average current market value, as a standard of assessment are as follows:

1) Current values are more realistic for assessment purposes than are historic ones. Taxpayers can understand and verify current values more easily. The use of current values for assessment makes possible easy comparison of assessed valuations between individual properties, between classes of property, and between counties or other taxing districts with the use of current sales information.

2) With a current value basis of assessment, the achievement of the goal of equalization could be more nearly accomplished. Equalization represents uniform assessment of property with reference to its present value. Therefore, it is easier to place a correct valuation on property with use of current values, than with use of values of a year that is long past.

3) Use of a full current value would benefit some taxing jurisdictions which are now hampered by an inadequate tax base. Assessments at low levels have, by administrative action, placed a limitation on levying and bonding powers, which was not intended by law. Some taxing jurisdictions, at present, feel compelled to hold their valuations at a higher level than others because of these limitations. In doing so, they are penalized for assessments at a higher level than in other jurisdictions. An increase in the level of assessment in all counties would solve this problem, while making equalization possible.

The arguments used in opposition to the use of full cash value assessments are as follows:

1) Increases in the level of assessment would cause an increase of the tax load because the mill levies would not be decreased proportionately.

2) Use of current value assessments based upon average market value would result in complaints from taxpayers who, for one reason or another, purchased property for less than what was determined to be the average market value. These complaints would be hard to deal with because the taxpayer would have documentary evidence that he had paid less than the assessed valuation for the property.

3) Use of current value assessments would be extremely difficult administratively because of the annual adjustments of valuations which might be required, and because there would be a time-lag. It would not be possible to determine the market value for the current year in time to use it for making assessments for the current year.

4) Constant adjustments of assessments resulting from the use of current values would create confusion among the taxpayers.

5) Taxpayers and assessing officials would likely resist an increase from the present levels of assessment to full value.

Some of the arguments against use of full cash value assessments could be overcome:

1) If adequate limitations were provided to prevent an undue increase of tax levies, so that an increase in levels of assessment would not, of itself, increase the total tax burden.

2) If the procedure of comparing a property with similar properties were used in reviewing complaints resulting from individual purchases of property for less than assessed valuation.

3) If use of market values determined for the preceding year or two years preceding were used in making assessments and in judging equalization. This would allow for the time-lag needed for administration of assessments on this standard.

4) If adjustments of the level of assessment were permitted to be made periodically, every four or five years, instead of annually.

5) If sufficient time were permitted for the administrative task of changing from present levels of assessment to the new.

6) If a reasonable margin of variation from the standard were permitted. This would allow for the fact that it would be nearly impossible to assess at exactly full cash value, or to determine exactly that assessments are made at full cash value. A five per cent margin of permissable variation either way would probably be sufficient.

Prescribed Percentage of Full Value. Some of the arguments against using full cash value as the standard of assessment would be overcome, if, instead, a percentage of full value were prescribed as the standard. This would be especially true if the percentage selected were approximately the present average sales ratio. However, this would amount to continued circumvention of the requirements of the constitution, unless the Constitution itself were amended. And it would prevent some of the benefits which can be derived from full cash value assessment. In any event, average market value would have to be determined in order for a percentage of it to be used.

Base Year Standard of Assessment. The other alternative is to continue the use of the present practice of assessing on the basis of a base year, such as 1941. Little can be said for the continuance of this practice except that it would require no great increase in the level of assessment.

Much can be said against it. Equalization with reference to the present value of property cannot be achieved with use of a static assessment base. Values are rarely static. Furthermore, the relative values of one property to another do not remain constant with the passage of time. One property increases or decreases in value more rapidly than another. One class of property changes in value more rapidly than another. Value relationships of one area to another do not remain constant. The items of cost involved in construction of buildings vary at different rates.

With the passage of time, it becomes increasingly difficult to determine what the 1941 level of values was for any particular property or class of property.

Building materials which have been developed since 1941, and new types of machinery and equipment cannot be said to have a 1941 level of cost that can be truly determined. If so, the current cost is likely to be less than the 1941 cost on many such things.

It is difficult for the taxpayer to judge whether he is receiving equitable treatment. He probably does not know what the 1941 level of cost was. He is likely to believe that his property is under-assessed because his assessed valuation is a small part of what he knows his property to be worth. The actual situation may be that his property is over-assessed in relation to a similar property.

The adjustment of assessed valuations determined upon the basis of values prevailing in a given base year, in the interests of equalization, to reflect loss of value because of local or regional economic conditions, loss of utility, or various types of obsolescence, becomes very difficult. Such adjustments can be made only with reference to variations in current market value. And it becomes impossible to determine what percentage of current market value truly represents the 1941 level of value. This procedure tends to deteriorate into the mere adjustment of assessed valuations to an average level with reference to current market value, probably an ever-decreasing average.

Findings and Conclusions.

1) The constitutional standard of assessment at full cash value should not be changed.

2) Legislative action should be taken to insure the adoption of full cash value assessments in actual practice within a reasonable length of time by the imposition of penalties upon the tax commission for failure to enforce the full cash value standard, as well as upon assessors for failure to adhere to the standard.

3) Adequate limitations on tax levies should be provided for by law and no levy in excess of statutory limitations should be permitted without a vote of the taxpayers upon whom the levy is to be imposed.

4) The study of current real estate sales, as inaugurated by the Realty Recording Act,[27] should be continued as a means of determining average market value and of testing compliance with the full cash value standard of assessment.

5) Testing of assessed valuations by the latest sales information available should be permitted in recognition of the fact that completely current sales statistics cannot be maintained.

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27. C.R.S. 1953, Sec. 188-6-21 to 33.

6) Adjustment of existing assessed valuations should not be required until a mal-adjustment in excess of five per cent from average market value is determined to exist.

7) Methods of assessment should be developed which are designed to produce assessed valuations which are as nearly as possible at the average market value of property which is subject to the predominant economic conditions existing in the state.

8) Means of determining average market value of classes of property other than real property should be developed and used.

V

THE ASSESSMENT OF AGRICULTURAL LAND

Agricultural land, for assessment purposes may be defined as that class of land which derives value primarily from its use in the production of agricultural products or the grazing of livestock. It includes by far the greatest number of acres of taxable land in the state. Of the 38,097,693 acres of taxable land,[1] 37,177,920 acres,[2] or 97.6 per cent, are assessed as agricultural.

In terms of assessed valuation, the total valuation of all lands assessed as agricultural is $285,549,525, which is 35.5 per cent of the total valuation of all classes of taxable land in the state. It constitutes 8.7 per cent of the total valuation of all taxable property in the state. Although the valuation on this class of land represents only 12.3 per cent of the total valuation of real property (land and improvements) in the state, its relative significance is greater than this percentage indicates because it is of greater importance in so many of the state's sixty-three counties. Table II on page 36 illustrates the relative importance of agricultural land valuations in comparison with the total valuation of real property for each county, arranged in order of relative importance. Table III shows the 1958 assessed valuation of agricultural land in the state by classes as reported to the state tax commission.

The assessment of agricultural land in Colorado is very difficult, and the equalization of such valuations is even more difficult, because of the great variety of agricultural lands in the state, not only among counties but also within a great many of the counties. None of the factors which influence the value of agricultural land are uniform throughout the state. There are wide variations in terrain, soil characteristics, rainfall, availability of water for irrigation, elevation, latitude, and convenience to market, all of which influence, in one way or another, the types of crops that can be grown, the yield of such crops, the annual cost of operation, and therefore, the income-producing capability of the land.

Constitutional and Statutory Provisions

There are no statutory provisions relating specifically to the determination of the assessed valuation of agricultural land except that

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1. Public Land Ownership in Colorado, 1944, prepared by State Planning Commission and Colorado Water Conservation Board. Although this acreage determination is not current, it is the most recent one available and probably has not changed greatly since 1944.
2. Compiled from Abstracts of Assessment, 1958, from the 63 County Assessors.

TABLE II

Showing, for Each County, the Total Assessed Valuation of Agricultural Land and the Per Cent That it is of the Total Assessed Valuation of Real Property

County	Assessed Valuation	Per Cent	County	Assessed Valuation	Per Cent
Kiowa	$ 5,615,420	67%	Ouray	$ 867,175	30%
Saguache	4,835,020	64	Alamosa	2,610,750	29
Baca	7,518,590	62	Garfield	4,166,820	29
Cheyenne	5,605,450	62	Montezuma	2,663,910	27
Yuma	10,347,760	62	Logan	11,133,605	26
Conejos	3,880,170	60	Moffat	2,945,825	25
Elbert	4,506,630	60	Otero	5,926,030	24
Bent	5,148,200	59	Montrose	4,131,045	23
Kit Carson	8,588,130	59	Grand	1,516,855	22
Phillips	7,380,225	58	Morgan	10,185,060	21
Lincoln	6,689,880	58	Larimer	11,089,460	16
Crowley	2,657,075	57	Mineral	142,475	16
Sedgwick	5,313,620	55	Hinsdale	138,140	14
Custer	1,246,524	53	Mesa	7,195,550	14
Costilla	1,742,485	52	Pitkin	838,670	14
Prowers	8,910,050	49	Chaffee	1,061,080	13
Archuleta	1,329,357	48	La Plata	2,753,060	12
Routt	6,036,950	47	Adams	9,091,060	9
Dolores	1,635,765	45	Boulder	8,318,790	9
Rio Grande	5,685,399	42	Fremont	1,595,000	9
Weld	37,693,810	39	Teller	382,200	9
Washington	13,129,840	38	Summit	256,425	8
Las Animas	6,248,090	36	Gilpin	117,220	6
Park	1,897,960	35	Pueblo	4,723,105	4
Douglas	2,294,050	34	Clear Creek	135,520	3
Eagle	1,916,285	33	El Paso	3,523,680	3
Jackson	1,593,987	32	Jefferson	4,092,790	3
San Miguel	1,559,770	32	Rio Blanco	2,163,535	3
Huerfano	1,763,890	31	Arapahoe	2,391,030	2
Delta	3,971,530	30	Lake	118,120	- 1
Gunnison	2,532,170	30	San Juan	1,458	- 1

City and County of Denver — no agricultural land

Note: Compiled from the Abstracts of Assessment, 1958, from the 63 county assessors.

TABLE III

1958 Assessed Valuation of Agricultural Land[3] by Classes as Reported to the State Tax Commission

Class	No. of Acres	% of Total Agric. Land	Average Valuation per acre	Assessed Valuation	% of Total Agric. Land Valuation
Irrigated Land	2,068,521.92	5.6%	$57.82	$119,602,168	41.9%
Meadow & Irrigated Pasture Land	527,647.88	1.4	21.47	11,328,732	3.9
Dry Farm Land	8,607,504.81	23.1	10.17	87,570,992	30.7
Grazing Land	24,098,606.61	64.8	2.67	64,445,641	22.6
Arid, Waste, Seep & Restoration Land	1,841,084.47	5.0	1.03	1,894,277	0.7
Miscellaneous	34,554.00	0.1	20.48	707,715	0.2
Total Agricultural	37,177,919.69	100.0%	$ 7.68	$285,549,525	100.0%

"agricultural lands shall be valued as a unit with the improvements and water rights located upon them".[4] Since this particular requirement relates to the assessment of both agricultural land and improvements thereon, it will be treated as a separate problem.

Tax Commission Policy

The official policy of the Colorado Tax Commission for the assessment of agricultural land is set forth in Section C of the Assessors' Real Estate Appraisal Manual. Basically, that policy calls for capitalizing

3. Compiled from Abstracts of Assessment for 1958 from the 63 county assessors. Since there are some differences between the classification of agricultural land as used in this chapter and those as used in the abstracts of assessment, the total valuation for agricultural lands shown here will not be the same as the total for those classifications designated as "farm lands" in the abstracts as it will probably appear in the 1958 Annual Report of the Colorado Tax Commission. The abstract classification of "Suburban Tracts" under the heading of "Farm Lands" has not been included. The item designated as "Miscellaneous" in the above table is taken from the abstract classification "Other Land Not Classified" in the abstract of Costilla County, as this particular acreage is known to be agricultural.
4. C.R.S., 1953, Sec. 137-12-9.

the average net income that was produced over a ten-year period on a typical farm unit under average management. The average net income is to be determined for each class of land within homogeneous areas. The valuation per acre determined by capitalizing this net income is used in a process of mass appraisal of all land in each class. The ten-year period prescribed for averaging net income is the years 1934 to 1943, inclusive.

If this policy were strictly adhered to in the actual appraisal of agricultural land for purposes of taxation, the procedures outlined below, and illustrated in Table IV, would be followed.

1) Advisory Committee. The county assessor would select an advisory committee of representative land owners of his county, having first-hand knowledge of the agricultural land in the county, to assist him.

2) Land-Use Map. A land-use map of the county would be drawn showing the land that is used for each of the following purposes: dry farming, special crops; dry farming, diversified crops; irrigated, special crops; irrigated, diversified crops; grazing land; and meadow hay land.

3) Type-of-farming Areas. With land use as a guide, the advisory committee would designate the geographic boundaries of areas having similar types of agricultural operations, and within which lands of similar character could be expected to yield approximately the same income under average management.

4) Key Farms. Within each type-of-farming area, "key" farms would be selected which are typical of the area with respect to types of soil and other physical operating conditions. These farms would be selected without regard to the individual managerial ability of their operators.

5) Land Classification. The land on each "key" farm would be classified according to its use and production capability. When available, Soil Conservation Service Land Capability classifications would be used. When such classifications were not available, some other basis of capability classification would be used.

6) Acre Yield. Average acre yields for the ten-year period would be determined for each crop grown on each land capability class under normal management, normal conditions and current farming practices generally followed throughout the type of farming area.

7) Gross Yield. The average annual gross yield of each crop for each land class would be determined for the "key" farm under consideration by multiplying the number of acres of each land class devoted to each crop by the average acre yield.

8) Gross Income. The average annual gross income derived from each crop for each land class would be determined by multiplying the gross yield by the ten-year average field price received for each crop. Local field

prices would be used because of the varying costs of marketing crops from different areas.

9) Net Available for Capitalization. The net available for capitalization is the percentage of gross income which is normally realized as net income. It would be determined for each area from consideration of average costs of production with relation to average gross income.

10) Net Income. The net income realized from each crop for each land class would be determined by multiplying the gross income by the net percentage. Then the net incomes for all crops in each land class would be added together to determine a total net income for each land class. The total net income for each land class would be divided by the number of acres of each land class devoted to crops to determine a net income per acre for each land class.

11) Capitalization. The net income per acre for each land class would be capitalized at 5% to determine a value per acre for land of each land class. For example, an acre of crop land that produced $10 net income would be valued at $200. ($10 divided by .05 or multiplied by 20). This would be the average value per acre of the land during the ten-year period, 1934 to 1943, inclusive. Since this period has been prescribed as the base period for the assessment of agricultural land, corresponding to the 1941 base year prescribed for the assessment of other property, this value per acre would become the assessed valuation per acre to be used throughout the area for all land of the class under consideration.

12) Mass Appraisal of All Agricultural Land in Area. All of the agricultural land in the area would then be classified according to use and land capability. The number of acres of each class of land in each farm unit would be determined. In doing this, aerial photographs of the land and Soil Conservation Service Land Capability Maps would be used, when available. If such maps were not available, the committee would classify all of the land by comparison with the land on the "key" farms.

The valuations per acre previously determined for each land class would then be applied to the number of acres of each class to produce a valuation for all land of each class in the unit, and the products for all classes would be added to determine the total valuation of all the agricultural land in the unit.

Separate valuations per acre would be determined for irrigated farm land, for dry farm land, for meadow hay land, and for fruit and vegetable tracts, in this manner. Valuations per acre for grazing lands would be determined in a similar manner. The land would be classified on the basis of animal carrying capacity and the value determination would be based upon the normal rental value per head of livestock.

TABLE IV[5]

RURAL LAND VALUE CALCULATION IRRIGATED LAND

Using: Average commodity prices, 1934 to 1943; net available for Capitalization - 10%; and rate of capitalization - 5%

ACREAGE VALUE COMPUTATION BY LAND CLASS - TYPICAL OPERATOR - TYPICAL CROP PATTE

CLASS I

CROPS	TYPICAL CROP PATTERN	YIELD	UNIT PRICE	GROSS INCOME	NET
Alfalfa	40 Acres	3 T.	$9.00	$1080	$108
Beets	20 Acres	18 T.	6.25	2250	225
Corn	40 Acres	70 Bu.	.77	2156	215
Beans	20 Acres	2000 Lbs.	3.59	1436	144
Barley	40 Acres	60 Bu.	.55	1320	132
Total Acres	160		Total Net Income		$824

Net $824 ÷ 160 acres equals $5.15 net income per acre
$5.15 capitalized at 5% equals valuation of $103 per acre

CLASS II

Alfalfa	40 Acres	2½ T.	$9.00	$ 900	$ 90
Beets	20 Acres	16 T.	6.25	2000	200
Corn	40 Acres	60 Bu.	.77	1848	184
Beans	20 Acres	1500 Lbs.	3.59	1077	107
Barley	40 Acres	50 Bu.	.55	1100	110
Total Acres	160		Total Net Income		$691

Net $691 ÷ 160 acres equals $4.32 net income per acre
$4.32 capitalized at 5% equals valuation of $ 86 per acre

CLASS III

Alfalfa	40 Acres	2 T.	$9.00	$ 720	$ 72
Beets	20 Acres	12 T.	6.25	1500	150
Corn	40 Acres	40 Bu.	.77	1232	123
Beans	20 Acres	800 Lbs.	3.59	574	57
Barley	40 Acres	40 Bu.	.55	880	88
Total Acres	160		Total Net Income		$490

Net $490 ÷ 160 acres equals $3.06 net income per acre
$3.06 capitalized at 5% equals valuation of $ 61 per acre

CLASS IV

Alfalfa	40 Acres	1½ T.	$9.00	$ 540	$ 54
Beets	20 Acres	8 T.	6.25	1000	100
Corn	40 Acres	25 Bu.	.77	700	77
Beans	20 Acres	400 Lbs.	3.59	287	28
Barley	40 Acres	25 Bu.	.55	550	55
Total Acres	160		Total Net Income		$314

Net $314 ÷ 160 acres equals $1.96 net income per acre.
$1.96 capitalized at 5% equals valuation of $ 39 per acre

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5. Adapted from Assessors' Real Estate Appraisal Manual, p. C14 (1955).

This method of appraising agricultural land was developed during the re-appraisal program, beginning in 1947, and was first applied to assessments in 1952. It is the result of a cooperative effort headed by the Re-appraisal Division of the Colorado Tax Commission. The State Agricultural Planning Committee, the Agricultural Extension Service, and the Department of Agricultural Economy of Colorado State University acted in advisory capacities on all phases of the program. Numerous other agencies were consulted on special phases. This cooperative nature of the method would be duplicated at the county level, where, ideally, the county agricultural agent, the county agricultural planning committee, the special advisory committee, and a tax commission consultant assessor would assist and advise the county assessor in determining valuations and applying them.

As a method of appraisal it has much to recommend it. It recognizes the local nature of the problem of appraising agricultural lands and allows for local variations in agricultural conditions. It recognizes that, in the final analysis, the value of an agricultural unit depends upon the amount of income that can be derived from it. It makes use of scientific and statistical data which may be available, as well as of informed opinion. It allows for taxpayer participation. By the use of a ten-year average, it avoids excessively high or low values which might result from the use of a single year. By its emphasis on average management, it avoids penalizing good management or rewarding poor management. It is applicable to mass appraisal such as is required in assessing all of the agricultural land in the state, where it would be physically impossible to make a detailed individual appraisal of each operating unit. And it seems simple enough to be capable of use by assessing personnel.

However, the results achieved by this method can be only as good as the efficiency of its application and the accuracy of the data used. Good results require accurate information concerning crop yields, commodity prices, land classifications and operating costs. Uniformly good results require uniform application of the method. In actual practice, the application of this method has left much to be desired.

Actual Practice

The actual appraisal of agricultural land in all counties has strayed in varying degrees from the prescribed method outlined above. After careful investigation, it can be said that in no county in the state has the method been applied exactly as prescribed.[6] In at least seven counties, no re-appraisal of agricultural land has been completed, even though the project was undertaken state-wide prior to 1952 and was supposed to have been effective with the 1952 assessment. The policy of tax commission personnel in supervising the appraisal of agricultural land actually has strayed from the

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6. The City and County of Denver can be excepted from this statement, since it has no agricultural land.

prescribed method in some respects.

However, before making specific criticsm of what has or has not been done, it is only fair to all concerned to mention that many conditions beyond the control of those participating in the program have made it impossible to comply strictly with the prescribed policy. Furthermore, there is little doubt that, in general, the present assessed valuations on agricultural lands are much better than those which were in effect prior to the reappraisal. It can be said that in many counties a reasonably good job of appraisals has been done, in view of existing circumstances.

Crop-yield Information. A very important factor in successful appraisal by this method is the use of accurate crop-yield information. Therefore, the availability of such information is essential to good results. The only statistics concerning crop yields which were available for use in the reappraisal program were the Colorado Agricultural Statistics which are published annually by the Colorado Department of Agriculture. The value of these for use in appraising the land is limited by the fact that they are compiled on a county-wide basis, giving the total and average yields of each crop for each county. Therefore, their direct use in determining average yields for different areas within the county, or for different classes of land is impossible. Furthermore, the yields per acre are shown for harvested acres, rather than planted acres. They have been useful, however, as a point of reference.

In the absence of crop statistics for each separate area, a substitute measure was adopted. A consensus of opinion was obtained from among the local farm operators, who served on the county advisory committees, concerning the normal average crop yield during the base ten-year period. In some cases, this opinion may have been based upon actual crop records kept by members of the committee. In most cases, however, it tended to be merely the opinion of what the average yield would likely be. In some cases, such consensus of opinion was probably very nearly correct. In others, it may have been quite wrong.

The committee members probably did not recollect very clearly the crop-yield history of the prescribed ten-year period in many cases. In some counties, those who participated now believe they were unconsciously influenced by pride in their years of better yields, or by prospects of improved yields, to overstate the normal yield. This possibility is borne out by an apparently higher level of valuation in these counties. In other cases they appear to have been influenced unconsciously by their memory of drouth, or by their knowledge that the information was to be used for purposes of determining assessed valuation, to be overly conservative in their opinions. It is not believed, however, that there was any deliberate collusion among the committee members to obtain low assessed valuations by understating yields. Whatever the results, it appears that the men who served on advisory committees were very sincere in their desire to perform a worthwhile service. The main weakness demonstrated was the lack of adequate crop-yield records in the form in which they were needed, and committee members provided the best information available.

Crop Prices. Since the local field prices for each crop in each county can be obtained from the Colorado Agricultural Statistics, it seems that this portion of the required data was sufficiently accurate. And since the variation in price from one area to another within a county is usually small, those field prices should be adequate for use in this type of appraisal.

Costs of Operation. Records of costs of operation during the prescribed ten-year period were not available to the appraisers, nor have they been available to those studying assessment methods. Again, improvisation in the appraisal process was necessary, with reliance on the opinions of advisory committee members. It could not be determined during this study whether actual differences in cost of operation from one area to another were adequately recognized.

The problem of evaluating the quality of the appraisal work done on agricultural land has been complicated by the fact that it has been impossible to learn what crop yields and costs of operation were used in value computations in any but a few of the sixty-three counties. No records of the value computations were kept either at the office of the tax commission, at the office of the county assessor, or by the advisory committees. Usually, the only records kept were the results--a schedule of assessed valuations per acre to be used for each class of land in each area in the county. Therefore, it has been impossible to verify that the valuations in use were correctly determined by verifying each step in computation.

Land Classification. In setting up the appraisal method, it was determined that the best land classification available was that of the Soil Conservation Service. Unfortunately, at the time the re-appraisal was undertaken, the land classification information that was available for use was, in general, very fragmentary in nature. Only a small part of the total acreage of the state had been classified in detail by the Soil Conservation Service. Where reasonably complete classifications were available for a county, or for an area within a county, they proved to be very helpful to the appraisers. In many counties, where only partial classification surveys had been made, these proved helpful for classification of land by comparison.

Because of the difficulty encountered in attempting to use a uniform method of land classification, and because of the difficulty of getting basic crop-yield data by class of land, in practice, the policy of determining land valuations specifically for each class of land was abandoned. Instead, valuations were determined for what was deemed to be average land in each area. Higher and lower valuations were arbitrarily assigned to good and poor land.

Since an accurate determination of acreages of land by classes and uses is essential to good appraisal, and since the use of aerial photographs of the land is essential to such determination, the possession and use of such photographs is an important element in successful appraisal. It has been determined that only twenty-three county assessors possess aerial photographs. In eighteen other counties, photographs are available to the assessor

in other governmental offices, but not always at the county seat. It is definitely known that twenty-one counties neither purchased aerial photographs nor had the use of any. Furthermore, some of those photographs in use have become obsolete and should be replace.

Use of 1934-1943 Base Period. As with the assessment of all classes of property, the adherence to a base period of value as a standard of assessment is not conducive to the maintenance of equalized assessed valuations. In the case of agricultural land, the base period used was the ten-year period from 1934 to 1943, inclusive. This period was selected partly because crop statistics were available for that particular ten-year period on a county-wide basis. They were not available for later years because of war-time interruption of the publication of crop statistics. It was also believed that, for agricultural land, this ten-year period was representative of the 1941 level of values.

With the passage of time, there is not necessarily a static comparative relationship of agricultural land values among the many separate agricultural areas in the state, nor is there a static comparative relationship between the values of agricultural lands, and those of other classes of property. During the inflationary trend that has followed the year 1941, agricultural land values may have increased more or less than those of other classes of property. In addition, the base period is now so far in the past that, in the absence of adequate historical data, it is extremely difficult to make appraisals based on values of that period.

Accomplishment by Counties. One indication of the degree of effectiveness of this method to date is what has been accomplished since its development. In 1953, one year after the re-appraisal became effective, according to a tax commission publication of land valuations which were to be used in each county, the following had been accomplished:

1) No valuations were published for sixteen counties, indicating that nothing had been accomplished in these counties. Denver County, which has no agricultural land, and San Juan County, which has only 364 acres of grazing land privately owned are included in these 16 counties.

2) For six counties, the only valuations published were standardized valuations for meadow hay and grazing land designed for state-wide use, to be applied on the basis of tonnage yield and animal carrying capacity, respectively, indicating that no actual field work had been done in these counties.

3) For forty-one counties, a schedule of valuations was published:

a) fourteen of which included the standard meadow hay and grazing valuations, all other valuations having been developed specifically for each county;

b) five of which included standard meadow hay valuations, with specific valuations on other classes;

c) eight of which included standard grazing land valuations with specific valuations on other classes;

d) two of which included valuations for irrigated farm land only;

e) and twelve of which included a complete schedule of valuations designed specifically for each county, area by area.

All county assessors have been visited at their offices at least once, at which time the schedule of land valuations actually in use in each county was obtained, and compared with the schedules published in 1953. Records were inspected to verify the use of the schedule. A statement was obtained from the assessor concerning how the land was appraised in his county. The problem was also discussed with many agricultural people throughout the state, and their views concerning the current valuation of agricultural lands were obtained.

In general, the following conclusions can be stated about the current situation. In two counties a superior job of appraisal appears to have been accomplished, judging by the methods used. Very effective use was made of the method prescribed by the tax commission, adapted to local circumstances. Very extensive use was made of advisory committees whose members worked hard and did a thorough job of appraisal, making a very careful and comprehensive classification of land. The valuations determined by the prescribed formula were followed closely. The committees are still functioning, meeting annually to review agricultural land assessments and to recommend adjustments, on occasion, and to consider all requests for adjustment which have been received from land owners. The assessors and county commissioners of these two counties make no adjustments of this class of assessments except on committee recommendation.

Thirteen other counties have apparently done a reasonably good job of appraisal, though not as outstanding as the two referred to above.

Sixteen other counties have made a conscientious effort to do a thorough appraisal and have achieved fairly good results. However, in general, they did not have very effective use of committees, they did not adhere strictly to scheduled valuations, and classification of lands were not as thorough as should have been.

Nine other counties have rather unsatisfactory appraisals, with ineffective or no use of committees, failure to reclassify lands, inadequate records of what was done, and indications of valuations being seriously out of line with those of neighboring counties.

At least fourteen counties have either done nothing on re-appraisal of agricultural lands, or have done so poorly as to make it desirable that a complete re-appraisal be done.

Two counties still use the appraisal system previously in effect in their counties, which the assessors feel produce satisfactory results, but

the schedule of valuations used is not one developed and approved by the tax commission.

In another county, the assessor determined the valuations himself, without tax commission consultation, using a different formula than that prescribed. The resulting valuations are noticeably out of line with those in adjoining counties.

In another, the assessor, with intensive committee participation, developed a divergent classification system, rating land at a percentage of the value of the best land in the county, and setting the level of valuation by comparison with similar land in an adjoining county which had done a thorough job of appraisal. It is not intended to be critical of this procedure except that it is not in conformity with tax commission policy.

In another county, committees classified the land in detail and then determined an average valuation per acre for each farm unit. On the property card only this average valuation for each unit is entered, making it extremely difficult, if not impossible, to even determine whether the proper schedule of valuations has been used.

In another county, the local committee decided, the assessor accepting the decision, that six per cent should be used as the rate of capitalization, rather than five per cent, thereby producing a lower level of valuation.

In several counties, a flat valuation per acre is used county-wide for all grazing land, and another flat valuation per acre for all meadow hay land, without regard for the variations in carrying capacity or productivity.

In another county, nearly five per cent of the land assessed as agricultural land is classified as miscellaneous land. This land is in small tracts, each of which contains some irrigated farm land, some meadow hay land, some irrigated pasture land, and some waste land. The land in these tracts has not been classified, but is assessed at a uniform valuation per acre for all land in each tract.

If it were the purpose of this report to assess blame for faulty assessments on an individual basis and to follow up with direct corrective action in each and every county, a detailed report could be made of what has been learned in each of the sixty-three counties. However, such actions are of an administrative nature, rather than legislative. The foregoing analysis should be sufficient to support the following conclusions: 1) there is a great lack of uniformity in methods used in the appraisal of agricultural land among the sixty-three counties; 2) there is a great variation in the degree of efficiency of appraisal from county to county; and 3) while theoretically the prescribed method of appraisal is good, in its application it has fallen short of its objective because of lack of adequate information and thorough ineffective administration.

Comparisons of Assessed Valuations. In addition to an analysis of methods of appraisal actually used, certain comparisons of the assessed

valuations in effect must be made in order to evaluate the degree of equalization that has been achieved. It is possible that in some counties the appraisal of agricultural lands might be judged to be good in terms of application of the prescribed methods, and satisfactory equalization possibly has been achieved for the agricultural land classes within the county. However, the resulting valuations might be comparatively high or low, due to some undetected fault in application, such as the use of inaccurate crop data, or due to changes in value of the land since the base period which was used. On the other hand, some counties, in which there was poor compliance with the prescribed method, might be found to have a satisfactory level of assessments when compared with others.

The sales-ratio study provides one comparison of assessed valuation to sales value for those agricultural units which were sold during the one-year period from July 1, 1957 to June 30, 1958, inclusive.

In the development of the sales ratios for agricultural lands great care was taken to isolate the problem. Only those sales which were considered to be true sales of agricultural lands, as such, and which provided a true comparison of sales consideration and assessed valuation, were used. All sales of rural land were scrutinized to determine whether they should be considered for use. As a result of this attention, the following types of sales were not used in determining the sales ratio of agricultural lands:

1) sales between relatives;

2) sales having any element of foreclosure or compulsion;

3) sales of land for right-of-way;

4) sales of tax title;

5) sales of land when the exact assessed valuation for the land sold could not be determined;

6) sales where the consideration included payment for anything except real estate--personal property, grazing permits, leases of public land, growing crops, etc-- and the consideration paid for real estate only could not be determined; and

7) sales where the purchaser bought for a use other than agricultural--residential, commercial or industrial sites, pleasure resorts, or suburban development.

All assessed valuations reported on agricultural land sales were verified by inspection of the records of the county assessor, and all sales considerations were verified insofar as such verification was possible. By correspondence with purchasers, and by inspection of records in the office of the county clerk and recorder, it was determined whether any obligation was assumed in connection with the purchase which was not stated in the consideration. In the same manner, it was determined whether anything purchased other than the described land and improvements on it was included in the stated consideration. If such was found to be the case and no value of the non-realty items could be determined, the sale was not used in determining

the sales ratio. If no satisfactory answer could be obtained the sale was not used.

The average state-wide sales ratio for agricultural land as a separate class is 24.2 per cent. This is somewhat lower than the average ratio for sales of all classes of property, which is 27.9 per cent. Twenty-seven of the counties have ratios higher than this average for agricultural land, ranging up to 44.7 in one county. Twenty-five of the counties have ratios lower than this average, ranging down to 11.5 in one county. Nine counties have agricultural land sales ratios between 23.0 and 25.4, within five per cent on either side of the average. Twenty-two counties have ratios above and twenty-three counties have ratios below this five per cent variation.

Comparison of Dry and Irrigated Land. One significant relationship that is indicated by comparing these ratios is that irrigated land, as a class, has a higher ratio than dry land as a class. The counties having ratios above the average are predominantly counties of irrigated farming, there being only one county in the group having no irrigated farming. Those having ratios below the average include thirteen counties having little or no irrigated farming. This indication is supported by the following comparison of separate ratios on different classes of agricultural land.

County "A" has irrigated and dry farm land in approximately the proportion of one to five, respectively. In this county, the sales ratios on separate classes of farm land are as follows:

1) on farm units having dry farm land, but no irrigated land 22.3;

2) on farm units having grazing land, exclusively (no farm land) 20.2; and

3) on farm units having some irrigated farm land 28.3.

County "B" has irrigated and dry farm land in approximately the proportion of twenty to one, respectively. In this county, the sales ratios on separate classes of land are as follows:

1) on farm units having dry farm land, but no irrigated land 21.0;

2) on farm units having grazing land, exclusively (no farm land) 23.1; and

3) on farm units having some irrigated farm land 35.6.

County "C" has no irrigated land, and sales were of lands which had only a small amount of grazing land associated with dry farm land. The sales ratio was 19.7.

County "D" has no dry farm land, and has irrigated land and grazing land in approximately the proportion of two to five, respectively. In this county, the sales ratios on separate classes of land are as follows:

1) on farm units having some irrigated farm land 23.5;
and
2) on farm units having grazing land, exclusively (no farm land) 8.1.

The average ratios for these categories, for the entire state, are as follows:

1) on farm units having dry farm land, but no irrigated land 20.8;

2) on farm units having grazing land, exclusively 17.8;
and
3) on farm units having some irrigated farm land 27.4.

Comparisons of Assessed Valuations at County Lines. Another comparison that can be made to indicate the degree of equalization between counties is a comparison of assessed valuations of similar lands in adjoining counties at the county lines. Following are the results of such comparison:

	Valuations per Acre of Lands Adjoining at County Lines							
	Grazing Land		Dry Farm Land		Meadow Hay Land		Sales Ratio Ag. Land	
County A In Comparison	Co. A	Other Co.	Co. A	Other Co.	Co. A	Other Co.	Co. A	Other Co.
With County B	4.50	2.50	20.00	12.00	42.00	40.00	24.9	26.4
With County C	4.50	2.50 to 3.50	None	None	None	None	24.9	31.8
With County D	4.50	2.50	None	None	42.00	45.00	24.9	27.7
With County E	4.50	3.00	None	None	None	None	24.9	19.8

			Irrigated Farm Land		Sales Ratio Ag. Land	
County F in Comparison	Grazing Land Co. F	Other Co.	Co. F	Other Co.	Co. F	Other Co.
With County G	2.50	2.50	20.00 60.00	10.00 100.00	24.2	23.6
With County H	2.50	3.80	None	None	24.2	26.9
With County I	2.00	2.75	15.00	20.00	--	--
	2.50	4.00	30.00	50.00	--	---
With County J	2.50	2.80	72.00 80.00	35.00 70.00	--	--

County K in Comparison	Valuations per Acre of Lands Adjoining at County Lines					
	Grazing Land		Irrigated Farm Land		Sales Ratio	
	Co. K	Other Co.	Co. K	Other Co.	Co. K	Other Co.
With County L	None	None	15.00	25.78	34.5	37.7
			45.00	46.45		
With County M	5.00	2.00	30.00	42.50	34.5	31.2
			75.00	60.00		
With County N	2.50	2.00	30.00	29.25	34.5	44.7
			75.00	67.50		

County O in Comparison	Grazing Land		Dry Land		Irrigated Land		Sales Ratio	
	Co. O	Other Co.	Co. O	Other Co.	Co. O	Other Co.	Co. O	Other C.
With County P	2.75	2.75	5.00	8.00	None	None	27.0	22.9
With County Q	2.75	4.00	5.00	8.00	None	None	27.0	24.3
			12.00	15.00				
With County R	3.00	3.25	5.35	6.00	None	None	27.0	19.9
			12.00	12.00				
With County S			15.00	20.87	116.50	127.00	27.0	27.4
With County AF	2.00	3.00	5.00	15.00	131.35	116.00	27.0	28.9
	5.00	3.00	25.00	26.00				

In this example, County A is seen to have higher valuations than its neighboring counties. This county is one in which agricultural land has not been re-appraised. In 1952, existing valuations in this county were increased by a uniform percentage. As can also be noted, its valuations are uniform within each class, indicating failure to classify land according to its relative production capability.

Sales ratios for the counties are also shown for purposes of comparison. In this connection, it should be noted that the comparison of assessed valuations at the county lines is not necessarily the same as the comparison of sales ratios. The sales ratios are a measure of the level of assessments on all land in each of the counties. County-wide, a county may have a higher or lower level in relation to its neighbor than is the case at the county line. In the first example, this difference is quite noticeable. County "A" uses uniform valuations per acre, county-wide for each of the three classes shown. As a result, land adjoining a particular neighboring county may appear to be assessed at a high level by comparison. On the other hand, land in the interior of the county, being of better quality but assessed at the uniform valuation, is assessed at a lower level in relation to its value.

Comparison by Crop Statistics. An attempt has been made to develop another means of comparing the valuations of agricultural lands from one county to another. This was an attempt to determine from such statistics as were available the average gross production of all crops in each county,

determine an average gross production per acre of cropland, and an average net income per acre,and then capitalize this average net income per acre at five per cent. This capitalized average net income per acre would then be compared with the average assessed valuation of the lands. No statistics were developed which it was felt were sufficiently reliable for publication.

The chief obstacle encountered was that all available statistics of crop production are on the basis of acres harvested. No satisfactory way was found to adjust the statistics so as to represent the total and average yields for all crops planted, whether harvested or not. Limitation of the study only to crops actually harvested would not give a true evaluation of the productivity of all of the crop land.

In search for a way of making such a comparison, another comparison was developed which is of interest. For six counties, widely separated geographically, an average gross receipts figure per acre was calculated for the period 1934 to 1943, inclusive, and for the period 1948 to 1956, inclusive. These averages were based upon acres harvested, only, and are gross receipts only. No costs of production have been taken into consideration for either period. Following is a comparison for the six counties showing the increase in average gross receipts per acre from the earlier period to the later:

	Irrigated Land		Dry Land	
County	1934-1943	1948-1956	1934-1943	1948-1956
Baca	14.48	42.45	4.48	12.18
Bent	47.72	95.44	2.71	17.04
Delta	25.36	61.51	--	--
Garfield	26.37	51.51	9.41	12.66
La Plata	17.67	40.20	--	--
Lincoln	14.93	50.86	4.37	11.21

These comparisons are not given as a measure of the increase in the value of the land from the earlier period to the later period, but only as an indication of the increase in value that has occurred.

Findings and Conclusions

1) The method of appraising agricultural land for assessment set forth in the tax commission's Real Estate Appraisal Manual is the best method available at present for such appraisal.

2) The provision of this method of appraisal as the tax commission policy on the assessment of agricultural land has failed, in itself, to produce wholly satisfactory results in assessments of agricultural land because:

a) factual information needed to implement the use of the method either has been not obtainable, or has not been obtained in some instances;

b) in varying degrees, from county to county, the method has not been applied, or has been applied incorrectly, inefficiently, or with insufficient thoroughness, and it has not been applied uniformly;

c) in some counties, the valuations resulting from appraisals have not been used in actual assessments, or have been used in altered form;

d) tax commission administration, instruction, supervision and enforcement of the use of the prescribed method has been ineffective;

e) the method has been insufficiently understood by many of those using it;

f) insufficient trained man power has been applied to appraising and assessing in many counties;

g) insufficient funds have been available in many instances;

h) local resistance on the part of officials and taxpayers has, in some instances, obstructed effective administration; and

i) prior to the present sales ratio study, and assessment methods study, the results of the appraisal had not been adequately tested.

3) Equalization of assessed valuations on agricultural land does not exist within counties, among counties, or with other classes of property.

4) For purposes of assessment, land should be classified as agricultural land, extractive land, or situs land.

5) Agricultural land should be defined as that land which is used for the production of livestock or agricultural products, or is held principally for such use, and which derives its value from its capability for producing such products.

6) Agricultural land should be assessed according to its capability of producing income through the production of agricultural products or grazing of livestock.

7) For purposes of such assessment, agricultural land should be classified according to its capability of production, such classification being designated as land capability classes.

8) Agricultural land which is used for the grazing of livestock should be classified according to its animal-carrying capacity.

9) Each land capability class, within each area in which similar conditions affecting agricultural production prevail, should be assessed at a valuation per acre determined by capitalizing the average net income from such class of land, under average management, with typical farming practices, during a period of ten consecutive years.

10) The assessed valuations for each capability class in each area should be reviewed annually with reference to the average production experience of the preceding ten years, provided that no adjustment of existing assessed valuations should be made representing a change of less than five per cent.

11) That the Colorado tax commission should be authorized and required to gather and compile such information concerning agricultural and livestock production from any source available as is needed for the assessment of agricultural land.

12) No land should be assessed as agricultural land which is not used for agricultural purposes, or held for such use, and that if land which is agricultural in use has in addition thereto a use which is either extractive or situs in nature, the value of such additional use should be taken into consideration in assessing such land.

13) Such legislation as is needed to implement the foregoing conclusions should be enacted.

VI

THE ASSESSMENT OF EXTRACTIVE LAND

Extractive land may be defined as that class of land which derives its value primarily by the extraction or removal of products from it. It includes those classes of land commonly known as mining claims, petroleum land, coal mines, quarries, sand, gravel and clay pits, mineral rights, and timber land. The determination of its value depends primarily upon the market value of the product extracted, the cost of such extraction, and the fact that the product extracted is either irreplaceable or requires a long period of time for replacement.

Currently the assessed valuation of this class of land in Colorado is a small part of the entire assessed valuation of the state. The 1958 valuation of $167,094,466 represents 5.1 per cent of the total valuation of all taxable property in the state. While this proportion may be relatively small in the total picture, extractive lands constitute a distinct class of property that should be subjected to equalized assessments the same as any other. The relative proportion is extremely important in many counties, and the relative importance of the class could become greater with further development of the mineral resources of the state.

Table V shows, for each county, the total assessed valuation of this class of land, and its relative importance in relation to the total valuation of real property. Table VI shows the total 1958 assessed valuations of various classes of extractive lands as reported to the tax commission by the county assessors.

Mines and Mining Claims

Statutory Provisions. The law prescribes in some detail a method of assessing producing mines. It defines "producing mines" as "mines and mining claims whose gross production shall exceed five thousand dollars." It requires the owners or operators of such mines to render a statement of: 1) the gross value of production for the preceding year; 2) the actual costs of extracting, transporting to place of reduction and sale, treatment and sale; and 3) the "net proceeds" after deducting the above expenses. It then prescribes a method of valuing said producing mine. The assessor is required to determine the "gross proceeds" and the "net proceeds" and assess the mine at either one-fourth of gross proceeds or all of net proceeds, whichever is the larger.

TABLE V

1958 Assessed Valuation of Extractive Land by Counties

County	Assessed Valuation	Per Cent*	County	Assessed Valuation	Per Cent*
Adams	$ 2,806,700	3%	Lake	$ 10,806,570	62%
Alamosa	22,021	- 1 **	LaPlata	2,687,025	12
Arapahoe	233,790	- 1 **	Larimer	790,480	1
Archuleta	246,926	9	Las Animas	1,524,180	9
Baca	342,662	3 **	Lincoln	615,960	5 **
Bent	61,973	- 1 **	Logan	15,116,515	35
Boulder	561,110	- 1	Mesa	1,134,470	2
Chaffee	314,070	4	Mineral	188,561	21
Cheyenne	1,410,535	16 **	Moffat	3,797,080	32
Clear Creek	1,040,070	25	Montezuma	16,125	-1
Conejos	21,355	- 1	Montrose	4,581,950	25
Costilla	85,055	2	Morgan	17,142,940	36
Crowley	86,140	2 **	Otero	27,740	-1 **
Custer	104,293	4	Ouray	845,724	30
Delta	64,045	- 1	Park	548,845	10
Denver		0	Phillips	40,415	-1 **
Dolores	202,360	6	Pitkin	170,030	3
Douglas	69,400	1	Prowers		0
Eagle	1,123,242	19	Pueblo	64,065	-1 **
Elbert	474,861	6 **	Rio Blanco	63,425,500	92
El Paso	214,080	- 1	Rio Grande	43,222	-1
Fremont	459,660	2	Routt	370,780	3
Garfield	660,970	5	Saguache	115,080	2
Gilpin	710,620	37	San Juan	854,331	62
Grand	40,895	- 1	San Miguel	1,707,430	35
Gunnison	837,370	10	Sedgwick	64,400	-1 **
Hinsdale	214,785	23	Summit	1,504,555	47
Huerfano	49,485	- 1	Teller	872,890	21
Jackson	1,722,948	35	Washington	17,011,247	49
Jefferson	121,050	- 1	Weld	5,983,330	6
Kiowa	368,870	4	Yuma	32,390	-1 **
Kit Carson	284,295	2 **			

* Per cent of total assessed valuation of real property in county.

** Exclusively severed mineral rights.

TABLE VI

1958 Assessed Valuation of Extractive Land for State by Classes, as Reported to Tax Commission

Class	Assessed Valuation	% of Total Assessed Valuation Extractive Land
Producing Coal Land	$ 437,871	0.3%
Non-Producing Coal Land	418,980	0.2
Developed Coal Land	253,480	0.2
Undeveloped Coal Land	1;122,230	0.7
Matalliferous Mining Claims	7,913,753	4.7
Output of Metalliferous Mines	391,535	11.6
Quarry Land	406,320	0.2
Placer Claims	1,318,397	0.8
Leasehold Interest per Production (Oil & Gas)	128,630,417	77.0
Oil Shale Land	617,455	0.4
Mineral Reserves	6,411,099	3.8
Timber Land	172,929	0.1
Total	$167,094,466	100.0%

It provides that machinery and surface improvements shall be assessed separately. This provision implies that underground improvements such as installed rail, waterline, air line, power lines, timbering, etc., are not to be separately assessed. They are, instead, included in the valuation of the producing mine.

It limits the use of this method to mines producing "gold, silver, lead, copper or other precious or valuable minerals." It specifically excludes from assessment by this method mines producing "iron, coal, asphaltum, quarries and lands valuable because containing other metals, minerals or earths."

It provides that mining claims and possessory rights not classified as producing mines shall be assessed according to their value. The assessor, in assessing them, shall consider location, proximity to other mines or mining claims and any other matters which may tend to assist him in arriving at a fair and equitable evaluation of such property.

It provides that no non-producing mining claim may be assessed at a greater sum per acre than is assessed against the lowest-valued producing mine in the same "locality."

It provides that "any number of contiguous claims owned and operated as one property by the same person, association or corporation, the gross production of which shall be more than five thousand dollars per annum, shall be deemed and considered to be one producing mine for the purpose of this chapter." [1]

Tax Commission Policy and Assessment Practice. Since a method of assessment has to some extent been prescribed by statute, tax commission policy has been limited largely to interpreting the statute as problems develop, and leaving assessment to the discretion of the assessor within the limitations of the statute. These interpretations have not been gathered together into one set of instructions. However, they are matters of common knowledge among assessing officers and taxpayers concerned with this class of property.

Assessment of Producing Mines. As stated above, there is a method for assessing producing mines prescribed by statute. The wording of the statute is such that there has been considerable difficulty in interpreting its meaning for application to actual assessment situations.

The statute classifies mines as producing mines and non-producing mines. In order to be classified as a producing mine, the mine must produce a specific type of metal. If it produces "gold, silver, lead, copper or "other precious or valuable minerals" it is classified as a producing mine. If it produces "iron, coal, asphaltum, quarry materials, or other metals, minerals or earths" it is not classified as a producing mine for purposes of assessment. Since only a few mineral products are specifically named, it is difficult to determine to which category other products belong. Are they "other precious or valuable minerals" and therefore in the category of producing mines, or are they "other metals, minerals or earths" and therefore in the non-producing category?

Many kinds of extractive materials are produced in Colorado today which are not specifically named in either category. It has been necessary for a decision to be made each time a new product appears. In general, mines producing those products which are metallic in nature and are produced by ordinary mining methods are treated as producing mines. Those whose products are non-metallic in nature are usually not assessed as producing mines. In addition to gold, silver, lead, and copper, the

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1. C.R.S. 1953, Art. 137-5.

following metals have, by common practice, come to be regarded as qualifying the mines from which produced for assessment as producing mines: Tungsten, zinc, molybdenum, vanadium, uranium, tin, and beryllium.

Another requirement specified for qualification of a mine as a "producing mine" is that its "gross production" for the preceding year exceed five thousand dollars. The term "gross production" is not clearly defined. The term has been interprested in practice to mean the gross value of the ore, less costs of transportation, treatment, reduction and sale. In other words, it is the amount for which the crude ore could be sold at the entrance of the mine.

There has been the same uncertainty regarding the meaning of the terms "gross proceeds" and "net proceeds" which are used in prescribing the method of calculating the assessed valuation. In practice, the terms have been interpreted as follows: the term "gross proceeds" means the same as "gross production" and excludes costs incurred after the ore is extracted from the mine; and "net proceeds" means the amount which remains after costs of extracting the ore from the mine are deducted. All of these interpretations have been sustained by the courts.[2]

A standard form is used on which a mine operator is required to return to the assessor a statement of his annual production for the preceding year. It provides for the following information in addition to the identification of the mine and its owner: (1) gross value of ore produced; (2) cost of transportation; (3) cost of treatment, reduction and sale; and (4) cost of extraction.

The following example best illustrates how this information is used in assessing the mine.

Gross Value of Ore. (Gross Sales Price)		$10,000,000
Less Cost of Transportation	$ 100,000	
Cost of Treatment, Reduction and Sale	2,500,000	2,600,000
Gross Proceeds		$ 7,400,000
Less Cost of Extraction		3,700,000
Net Proceeds		$ 3,700,000
One-fourth Gross Proceeds Equals		$ 1,850,000
Net Proceeds Equals		$ 3,700,000
Assessed Valuation is the larger of the two		$ 3,700,000

2. Standard Chemical Company v. Curtis, 77 Colo. 10, 233 P. 1112 (1925); Tallon v. Vindicator Consolidated Gold Mining Company, 59 Colo. 316, 149 P. 108 (1915); Paxson v. Cresson Gold Mining and Milling Company, 56 Colo. 206, 139 P. 531 (1914).

If net proceeds are smaller than one-fourth of gross proceeds, the assessed valuation is one-fourth of gross proceeds. Thus, it is possible that costs of extraction may exceed gross proceeds, resulting in no net proceeds. Yet there is a minimum assessed valuation equal to one-fourth of the gross proceeds.

Given the information included in the statement of annual production, the process of calculating an assessed valuation is very simple. Of more concern to the assessor is the problem of whether the information is correct. This is not a question of honesty of return so much as it is one of accounting practice. The statute does not specify what is included in the general items of cost which are deductible. It is important to know whether an item is deductible. It is equally important to know at what point it is deductible. No definite policy has been formulated governing the exact cost accounting which should be used.

One example of a problem faced in this respect regards the costs of developing a mine for future production. Should such development be deducted as a cost of extraction for the year in which incurred? Or should it be capitalized and a portion be deducted annually for several years? The law does not answer this problem. No definite policy has been established. In practice, assessors permit the mine operator to use whichever method he prefers. With either method, the cost cannot be deducted more than once. However, it does make a difference which one is used. If in deducting the full cost in one year, the net proceeds is caused to be less than one-fourth the gross proceeds, the operator has, in effect, deducted some portion of the cost without a reduction of assessed valuation.

No mention is made in the statute of what is commonly known as depletion allowance. The question is frequently raised whether this allowance is deductible as a cost of extraction. In practice, such deduction is not allowed.

In the case of small mine operations, poor accounting is typical. This can result in considerable confusion. For example, a small operator may haul his ore from the mine in his own trucks. He is entitled to deduct the cost of such hauling as cost of transportation. It is important that it be deducted as such in order that the gross proceeds be reduced, rather than net proceeds only. Yet, some operators maintain a supply of gasoline and motor oil which is used for both trucks and mine machinery. No accounting is kept of how much is used for each purpose. Therefore, it is impossible to determine accurately how much is deductible as transportation.

This is but one example of the many problems of the assessor and operator in making a production assessment. It has been necessary for the assessor to audit many returns merely in the interest of securing correct information which the operator cannot supply unassisted.

Another problem in the interpretation of the statute is that of how many mining claims may be included in the assessment on a producing mine. The words of the statute are "any number of contiguous claims owned and operated as one property by the same person, association or corporation .... shall be deemed and considered to be one producing mine." The interpretation of this provision is important. Such claims as are included as part of a producing mine are subject to no other assessment. Those excluded are assessed at the prevailing valuation per acre as non-producing claims. As holdings have been consolidated into groups consisting of hundreds of claims, it has become very important to limit as much as possible the number of claims that can be included in the unit assessment.

Mine owners seek to include as a part of the unit as many claims as possible. Emphasis is placed by them upon the term "contiguous." Claims are contiguous if their boundaries are touching or overlapping. The mine owners seek to include claims to which they do not even have fee title, but which are only leased or under option to purchase, if contiguous with the ones owned. They manufacture contiguity by locating additional claims for the sole purpose of joining separate claims into a single group. As a result, groups have extended to the point where some claims of a group of contiguous claims may be several miles away from the location of the mining operation.

The tax commission and the assessors, as a matter of policy, have attempted to limit this tendency. They have insisted on interpretation of the clause as a whole. The producing mine unit is limited to claims which are both owned and operated by one person, association or corporation, as well as being contiguous one to another. The requirement of operation limits claims included in the unit to those directly connected with the mining operation, i.e. 1) those from which ore is extracted during the year, 2) those through which ore is transported to the surface, 3) or those upon or in which any phase of the mining operation is conducted. Claims at a distance, which are being held for future exploitation or for some other purpose, are not included. However, in practice this policy is not followed strictly, with the result that many acres of mining claims are included in unit assessments of producing mines which should be assessed separately.

Another problem in the assessment of a producing mine is that of the division of the assessment among two or more counties when the producing group extends beyond the limits of one county. The law is silent on this question. As the assessment is a unit assessment, it is not possible to assess different claims of the unit at different valuations. The only logical way is to distribute the valuation equally over all claims in proportion to surface acreage. Two methods of solving this problem have been developed, and both are in use in different areas of the state. They are: 1) division of the unit assessment among counties in proportion to the number of acres of claims in each county; and 2) limitation of the unit assessment to claims located in the county where the ore is brought to the surface.

In the case of division of the unit assessment, the assessors must first agree on the amount of the assessment. They must then agree on which claims are included in the unit. It is then very simple to apportion the assessment by acreage within each county. In the determination of claims included, there is a tendency in both counties to permit inclusion of as much acreage as possible in order to increase the proportion of total acreage in the county. This is primarily responsible for the violation of the policy relating to limitation of the unit.

The other method, limiting the unit to one county, is clearly illegal, but is used in some cases, nevertheless. The county wherein the ore is brought to the surface makes a unit assessment based on production on those claims within the county. The other counties assess the claims of the producing unit which are within their boundaries as non-producing claims at a high valuation per acre. This amounts to a double assessment upon the mine owner, as under the law he is entitled to have a single unit assessment upon the entire producing mine.

The use of this method is based upon a misinterpretation of a supreme court decision. In the case of Standard Chemical Co. v. Curtis (1925) 77 Colo. 10, 233 P. 112, it was ruled that ore should be valued at the point of its separation from the surface. The clear intent of this ruling was to clarify the definition of the terms "gross proceeds" and "costs of extraction" used in calculating a valuation, and not to the situs of the assessment. If the latter were true, only a single claim could be included in a unit assessment. The case had nothing to do with inter-county assessment.

Another problem encountered by assessors in the assessment of producing mines is the failure or refusal of mine owners to render a return of their production. This problem has developed in the assessment of uranium mines. For many years mine operators were not permitted by the Atomic Energy Commission to report their annual production to county assessors. This hindrance was partially removed when the tax commission was permitted to obtain from purchasers of ore the amount of money paid to each operator for ore delivered. Since in uranium mining the ore is purchased before it is processed, it was possible to determine from this information the amount of gross proceeds and to make a minimum assessment of one-fourth of that amount. The operator was inclined to refuse or neglect to supply his cost of extraction needed to determine net proceeds. He was being assessed anyway and reporting his cost of extraction could not reduce his assessment. It could, though, increase his assessment, if the cost were sufficiently low.

Some assessors have adopted the practice of making arbitrary assessments which are obviously excessive, known as arbitrary assessments. Then when a statement of costs is received from the operator, the assessment is adjusted to a correct amount. In many cases the correct assessment is more than one-fourth of gross proceeds.

Other assessors have continued to assess at one-fourth of gross proceeds without determining net proceeds. As a result, many operators have been escaping with lower assessments then they should, merely by refusing to render a statement.

Another problem that has been encountered in the assessment of uranium mines is the assessment of the possessory right of lessees of government owned claims. This problem was not encountered before the formation of the U. S. Atomic Energy Commission, as the Federal government had no policy of leasing mining claims. Ownership of mines was in two forms: 1) possessory rights in unpatented mining claims; and 2) fee title in patented claims. A person could establish a claim to a mineral deposit by "locating" it, and could retain possession by doing annual "assessment work" (development work on the claim). So long as he complied with the law, performing what was required, he had a possessory right in the deposit, together with a right of use of the surface of the land. After complying with the requirements of the law, he could be issued a patent deed to the mining claim by the federal government. He then had fee title. Colorado law provides that both patented mining claims and possessory rights are taxable. [3] This law has been upheld by the U.S. Supreme Court.[4]

Then the practice of leasing mineral deposits to private operators was adopted by the Atomic Energy Commission, instead of permitting location of claims in certain withdrawn areas. Assessors decided that, while the Atomic Energy Commission, the owners of the land, were not subject to taxation, the lessee had a possessory right and that right was assessable under Colorado law. Therefore, such lessees were assessed for their leasehold interests on the basis of annual production. This practice is now involved in a lawsuit in district court in Montrose County in the case of LaSalle Mining Company v. Montrose County.

Non-Producing Mines. All mining claims which cannot be classified as producing mines are assessed as non-producing mines. The law provides that such claims, patented or unpatented, shall be assessed according to the value thereof. The tax commission has left the assessment of such mining claims to the discretion of the assessor. As result a wide variation has developed in assessment practice.

There is no practical way of determining the value of a mining claim. Its value depends upon the value of the mineral concealed beneath the surface. This value cannot be determined before exploration. After exploration, information relating to the value is not available to the assessor.

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3. C.R.S. 1953, Sec. 137-5-4 and 9.
4. Elder v. Wood, 208 U.S. 226, 52 L. ed. 464, 28 S. Ct. 263 (1908)

The typical practice is to assess all mining claims at a uniform valuation per acre within each county. This valuation per acre, in each county, has a historical basis. The same valuation has been used for a long period of years and is frozen by local tradition. It bears no relationship to any evidence of value, such as the selling price of claims.

Some assessors have adopted a scale of valuations. They use a different valuation per acre for claims in one area than for those in another, or for different kinds of mineral deposits. This is done when it is commonly accepted that claims in one area are definitely of greater value than claims in another area.

Valuations used vary from $2.95 per acre in one county to $120 per acre for claims in two adjoining counties. In one tri-county area, forming a single mining area, claims are assessed at $50 per acre in one county, $40 per acre in another, and $36 per acre in the third. It is possible for a single claim, lying partly in each of the three counties, to be subject to each of the three levels of valuation. Claims lying across the county line between two of the counties are common.

In twenty-two counties, mining claims are assessed at a uniform valuation per acre. In nine counties they are assessed at different valuations per acre according to location or type of mineral deposit.

Non-producing, unpatented mining claims are assessed in only one county in any significant number, although five other counties, having a small number, also assess them. They are assessed uniformly at $5.00 per acre.

Level of Assessment. The problem of equalization with assessments on other classes of property is quite confusing. Little has been learned from the current sales ratio study concerning this particular problem. There have been no sales of producing mines reported. If there were, such sales information would be of no value. The assessment of a producing mine bears no relationship to the sales price of mines. It is based each year entirely upon the value of production for the preceding year.

There have been few "arm's length" sales of non-producing mining claims. Many claims, previously taken for delinquent taxes, have been sold by the counties. These have not been accepted for use in the sales ratio. However, in the absence of normal sales, they do give an indication of the amount purchasers are willing to give for mining claims.

In most counties, such claims do not sell for more than $100 per claim. For a full ten-acre claim this would be $10 per acre. These claims in some counties are assessed at from $18 to $50 per acre, indicating a ratio of, not 30 per cent, but of from 180 per cent to 500 per cent. This is not a temporary market situation, but one which has existed for many years.

There is firm resistance in many counties to any suggestion that the valuations should be reduced in the interest of equalization. In the counties where the highest valuations per acre are used, the assessed valuation on non-producing mining claims is a major part of the total assessed valuation in the county. These are counties of low total assessed valuation, and assessors and commissioners feel that they cannot afford to reduce their valuations materially.

People do pay taxes on these high valuations on large numbers of claims, year after year. Those upon which taxes are not paid are taken by the county for delinquent taxes and some are resold for at least as much as the accumulated delinquent taxes. However, large numbers of mining claims in the state have been removed from the tax rolls through delinquency and have not been returned to the rolls through resale, because of high assessed valuations.

Coal Lands

Lands containing deposits of coal are excluded by law from assessment based upon annual production. All such lands are assessed at a certain valuation per acre. The fact that a mine is operating, or capable of being operated, is considered in determining the valuation per acre.

Coal lands have been classified by administrative policy as producing, non-producing, developed and undeveloped. These classifications are defined as follows: "Producing Coal Land shall be deemed to be such forty-acre units as have workings in a seam of merchantable coal, and from which coal is being extracted during the current year." "Non-Producing Coal Land shall be deemed to be such forty-acre units of undeveloped merchantable coal as adjoins forty-acre tracts of producing or developed coal land, providing the non-producing acreage shall not exceed ten years normal production from the mine." "Developed Coal Land shall be deemed to be such forty-acre units as shall have at least one entry driven more than half-way across such forty, indicating probability of merchantable coal in place throughout the current year." [5]

The tax commission recommends that the assessors assess according to these classifications, and cooperate toward the end of achieving equalization of assessments on this class of property among counties.

Following is a resume of 1958 assessed valuations per acre in counties which assess a significant amount of land as coal land. [6]

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5. Colorado Tax Commission Circular No. 1, 1958.
6. Abstracts of Assessment, 1958.

County	Producing	Non-Producing	Developed	Unveveloped
Boulder	$------	$------	$ 22.40	$ 7.03
Delta	143.48	22,93	------	-----
El Paso	140.21	25.71	------	1.58
Fremont	293.08	34.30	200.54	19.47
Garfield	------	21.99	------	4.61
Gunnison	403.00	43.94	200.41	9.82
Huerfano	283.33	100.00	200.00	3.06
Las Animas	478.80	334.23	132.14	65.18
Moffat	------	3.60	------	1.41
Pitkin	400.00	------	------	5.36
Routt	500.00	30.00	200.00	8.00
Weld	396.77	65.47	200.42	10.00

Oil and Gas Lands

The assessment of producing oil and gas wells has not been prescribed by law. Tax commission policy is to assess them on the basis of production for the preceding year. An oil well is assessed at eighty-seven and one-half per cent of the value of the production at the well-head determined by multiplying the total number of barrels produced by the average price per barrel at the well-head. A gas well is assessed on the same basis, with the posted field price being used. The assessments are made upon leasehold interests, whether the oil and gas rights are owned publicly or privately, and the amount of land included in each assessment is limited to ten acres.

Assessors are using this policy with strict uniformity. Therefore, it may be said that within this class of property there is uniformity of treatment. However, there is not equalization of valuations within the class because the gross value of production is used as a base. No adjustment is made for varying costs from one well to another. It would be more equitable for the assessment to be based upon the net proceeds, as in the case of mines.

It is not possible to determine whether the assessments on this class of extractive land are equalized with those on all other classes of property. They obviously are not equalized with assessments on producing mines, because the minimum assessment on an oil or gas well is eighty-seven and one-half per cent of its gross proceeds, while the minimum assessment on a producing mine is twenty-five per cent of its gross proceeds. Furthermore, it is possible for a profitable mine to be assessed for no more than its net proceeds, while all oil and gas wells are assessed on the basis of gross proceeds.

The existence of these differences indicates that equitable assessment would require the use of the same method of assessment for all types of extractive land. However, there has been no great desire on the part of either assessors or taxpayers for assessment of oil and gas wells in the same manner as mines, even though this might result in a more equitable

assessment. In the first place, the present method, requiring no reporting of costs, is very simple. In the second place, there is no advantage to the operator of an oil or gas well in the reduction of the property tax assessment. The reason for this is that, in the payment of severance taxes, the operator is allowed credit for the full amount of property tax paid. Therefore, the property tax actually costs the operator nothing as long as it does not exceed the amount of his severance tax liability. Furthermore, there is no inclination on the part of assessors to adopt a policy which results in a reduction of the valuation, since it is felt that if the local governments do not get the money, the state will.

Mineral Rights

Distinct from mining claims are the rights to such minerals, including oil and gas, as may exist under land. The ownership of these rights may be separated, or severed, from the ownership of the surface. The mineral rights under much of the land was reserved by the federal government when patent deeds to the land were issued. Likewise, the State of Colorado has reserved the mineral rights under school sections as they have been sold. County governments have reserved mineral rights when selling tax titles to land. All of these rights which are owned by the governments are, of course, exempt from taxation except for the assessment of privately-owned leasehold interests when producing.

Privately-owned mineral rights have also been severed from surface ownership. They have been sold separately by the owners of the land, or have been reserved when the land was sold. These privately owned mineral rights, when owned separately from the land surface, have been ruled to be subject to taxation, even though there may be no evidence of the presence of minerals.[7]

Present policy is to assess severed mineral rights at a minimum valuation of one dollar per acre. In practice, not all counties have done so. It is difficult to determine the current ownership, and some counties have not seen fit to undertake it. Some of these counties do assess such mineral rights when the ownership is known, or when the owner requests their assessment; but make no attempt to assess all of them. Twenty-four counties assess all severed mineral rights at $1.00 per acre. Twenty-two counties assess them only on request of the owner. Seventeen counties do not assess them. Since some taxable property is escaping assessment, there is lack of equalization.

Mineral rights owned with the land are not assessed unless the presence of minerals is positively known. Therefore, the peculiar situation exists where two farms of equal value are assessed differently. If one man owns one of them complete with the mineral rights, he is assessed for only the surface value of the land. If the owner of the other does not own the mineral rights, he is assessed in the same manner for the surface value of the land, and another man who owns the severed mineral rights is assessed for them. Thus one farm is actually assessed for $1.00 per acre more than the other, merely because ownership of mineral rights is separate from the land.

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7. Union Pacific Railroad Co. v. Hanna, 73 Colo. 162, 214 P. 550 (1923).

Timber Land

There is very little taxable timber land in the state. It is regarded as extractive land because income is derived by cutting timber which is replaced only after a long period of time. Only timber land from which timber can be cut and marketed at a profit, referred to as merchantable timber, is assessed as timber land. Only a small acreage of such land is privately owned, the bulk of it being publicly owned. In 1958, only 9,161 acres of land were assessed as timber land, with a total valuation of $172,929.

The valuation of timber land in present practice is on an acreage basis. The value of the timber (what can be realized by marketing it) is added to the value which would be placed upon the land if the timber were not merchantable. This practice does not recognize the extractive nature of timber.

Miscellaneous Extractive Lands

The assessment of quarries, sand and gravel pits, clay pits, and mines producing non-metallic products such as feldspar and fluorspar has been left entirely to the discretion of the individual assessor. The classification of such extractive lands as producing mines is forbidden by the statute. However, assessors try to assess them, when producing, at what they consider is a fair valuation per acre, considering the production as a factor. Usually, when not producing, they are considered to have little value.

Comments on Assessment of All Classes of Extractive Land

The preceding analysis of assessment policies and practices leads to but one conclusion. A very confused situation exists with reference to the assessment of extractive land. There is no uniform policy or practice applying to all parts of the general class. It is not possible to determine whether equalization exists between the class of land and others because it is not possible to determine what the value of this class of land is.

It can be said, however, that if equalization exists at one time between this class and others, it does not exist at another time. This is due to the static situation which exists in the assessment of extractive lands. In general, the assessed valuations per acre imposed upon non-producing extractive lands have remained unchanged for several decades. During the depression of the 1930's, when the valuations on other property were drastically reduced, those on extractive lands were not. In 1952, when the re-appraisal was effective, the valuations of other property were increased; those on extractive lands were not. Now, when valuations of other property are but a small percentage of market value, the valuations of extractive lands are in many cases several times market value in those cases where market value can be determined.

The method of assessing a producing mine, prescribed by statute, has remained unchanged since 1902. The net proceeds, or one-fourth of

the gross proceeds is always used as the assessed valuation. If this is the full value of the mine then it is always assessed at 100 per cent of its full value, and is over-assessed. If not, the reverse may be true.

It is commonly alleged that producing mines are under-assessed in comparison with other lands. The basis for this allegation is the fact that a producing mine may be assessed at no more than its net proceeds for the preceding year. The term "net proceeds" is confused with "net profit." It is argued that while a farm may be assessed for twenty times its average annual net profit, a mine is assessed for no more than its annual net profit.

This contention is fallacious in many respects. First, it confuses "net proceeds" of a mine with "net profit" of a farm. The net profit of a farm is that amount of money which is realized after expenses are paid, annually, without end, so long as the land remains productive. It is, therefore, a return from investment which continues, leaving the investment intact.

On the other hand, net proceeds of a mine is a return of, as well as from, investment. It is the amount which is left from a year's production after the expenses of production have been paid. Only an undetermined amount of it is profit. Furthermore, after the year's production, the value of the investment has been reduced by the net value of the ore which has been extracted, and eventually the owner has nothing left. Therefore, during the life of a mine, if its operation is to be profitable, the owner must try to realize from net proceeds a complete return of his investment, plus a net profit from his investment.

Second, it overlooks the extractive nature of a mine. The value of a mineral deposit is usually the value of the mineral contained in it less what it costs to remove and market the mineral, including a reasonable profit for the owner. When it is removed, nothing is left. If it would cost more than the value of the mineral to remove it and market it, the deposit has no value.

This value can be realized only once and a profit can be made upon it only once. Therefore, it would not be equitable to assess the mineral deposit for its full value, year after year, until it is depleted.

The value of a mineral deposit cannot be determined with any degree of certainty in advance of its extraction, not even with the most advanced geological and engineering techniques. Nor can the exact cost of extracting the deposit be foretold.

The present method of assessing producing mines recognizes these principles to an extent. Whether it produces an assessed valuation which is equitable in relation to assessments on other property can scarcely be determined. However, if the net proceeds of a mine is properly determined, and if the mine is assessed on the basis of net proceeds, year after year, during its lifetime, the mineral deposit will be assessed, in all, for something in excess of its full value. Perhaps, this is as

8) The term "gross production" should be defined as the gross sales price of the product as it is extracted from the land without deducting costs of extraction, less costs of treatment, transportation, and sale, if sale occurs subsequent to such treatment or transportation.

9) All mining claims or twenty-acre subdivisions of land which are contiguous and which are an integral part of a p roducing unit should be assessed as part of the unit according to the production therefrom, and no other land should be so included, provided that no mining claim or twenty-acre subdivision of land should be included as part of a producing unit unless the product was extracted from or transported through or across such mining claim or subdivision, or unless some essential phase of the production was conducted upon or in such mining claim or subdivision.

10) The assessed valuation of each producing unit of extractive land should be the net proceeds from production during the year preceding the year of assessment, provided, however, that no assessed valuation of a producing unit of extractive land should be less than one-tenth of the gross production during the year preceding the year of assessment.

11) The term "net proceeds" should be defined as the gross production less the costs of extraction.

12) Prior to the first day of May in each year, the owner of each producing unit of extractive land should be required to file or cause to be filed with the assessor of the county in which such land is situated an annual statement of production for the year ending with the 31st day of December preceding the assessment date on a form prescribed by the Colorado tax commission, subject to the same penalties for failure to file, or for filing of an erroneous statement, as is provided for failure to file a schedule of personal property.

13) The Colorado tax commission should be authorized and required to prescribe the form of such annual statement of production, and such regulations concerning accounting for and reporting income and costs as are necessary to obtain equitable and uniform assessments.

14) Possessory rights, leasehold interests in public lands, and severed mineral rights should be subject to assessment as producing units of extractive land.

15) Lands, possessory rights and severed mineral rights which are classified for purposes of assessment as extractive lands because of the potential value of future extractive production therefrom should be assessed for a minimum of $1.00 per acre, but in no event for a greater proportion of the average market value of similar lands than is assessed against other classes of property.

16) If lands which are classified for purposes of assessment as extractive lands, whether producing or not, have in addition a use which is either agricultural or situs in nature, the value of such additional use should be taken into consideration in assessing such land.

near to an equitable solution as can be achieved within the framework of a property tax.

However, if the net proceeds of a mine is an equitable basis of assessment, it seems inequitable to assess a mine at one-fourth of its gross proceeds when the net proceeds is less than that amount. It is possible for a mine to be operated at a loss, indicating the possibility that it has no economic value. Yet its owner has to pay taxes on one-fourth the gross market value of the ore at the mine entrance, which can be a very large assessment.

If it is equitable to assess the value of a mineral deposit only once in its lifetime for its full value, then is it equitable to assess non-producing mining claims, year after year, for an amount which is more than their average market value? Perhaps, all non-producing mineral lands should be assessed for only a nominal amount for the privilege of ownership.

Findings and Conclusions

1) The full cash value of extractive land cannot be appraised. It depends upon the market value of the product which may be extracted, which is an unknown quantity, less the cost of extracting the product another unknown quantity. These values can be known only after the product is extracted.

2) Market value of extractive lands is an inadequate guide for the assessment of such land. Sales of such land are infrequent. Furthermore, even though the market value of one unit of extractive land may be known, it is impossible to determine the likely market value of others by comparison.

3) Therefore, the only feasible method of determining the value of the land is on the basis of actual production from it, as such production occurs.

4) Since the value of such land is depletable, the value of the production should be assessed only once, as it occurs.

5) No more equitable basis of assessment can be suggested at this time than the net proceeds of production during the year preceding the assessment.

6) For purposes of assessment, extractive land should be defined as that land which derives its value principally by the extraction or removal of products, not agricultural in nature, from it, either actual or potential.

7) All extractive lands forming a part of a producing unit should, if gross production from such unit during the year preceding the year of assessment was in excess of one thousand dollars, be assessed according to the production during such year preceding the year of assessment.

VII

THE ASSESSMENT OF SITUS LAND

Situs land, as the term is used herein, may be defined as that land which is neither agricultural nor extractive. It does not derive its value from either the production of agricultural products or the grazing of livestock or from the extraction from it of any products of the earth. Its value is derived from the use of its surface as the location or situs for buildings, or for activities which are neither agricultural nor extractive in nature.

The total 1958 assessed valuation of situs lands for the state was $351,576,136. This represented 10.7 per cent of the total assessed valuation of the state, and 15.1 per cent of the total valuation of real property. Table VII shows, for each county, the total assessed valuation of this class of land, and its relative importance in relation to the total valuation of real property. Table VIII shows the total 1958 assessed valuations of various classes of situs lands as reported to the tax commission by the county assessors.

Constitutional and Statutory Provisions

There are no constitutional or statutory provisions relating specifically to this class of land.

Tax Commission Policy

Tax Commission policy for the assessment of this class of land is set forth in section B of the Assessors' Real Estate Appraisal Manual. That section calls for assessing this class of property at forty per cent of average market value. In determining average market value, if improvements are situated on the land, land and improvements are appraised as a unit. Attention may be given to rental value, sales of comparable property, income produced by the unit, and any other factors that may influence value. Once the unit value is determined, the reproduction cost of the buildings is deducted to arrive at the value of the land.

Local committees are formed in each community composed of people familiar with urban land values. With the aid of the assessor, the committee divides the community into economic areas of like use. Each area is considered by itself. The lot or parcel in each area having the greatest value is selected and designated as a 100 per cent value lot or parcel.

In selecting the 100 per cent value lot in each area, numerous factors are considered. For commercial areas important factors are pedestrian and vehicular traffic passing the location, nearness and adequacy of parking facilities, volume of business, etc. In residential areas important factors considered are: type of street; sidewalks; utility services; terrain; proximity to schools, churches, shopping centers, public transportation and recreational facilities; traffic patterns; quality of improvements in the neighborhood; the demand for property in the neighborhood; and the proximity of non-conforming uses such as factories, stockyards, railroads, airports and unsatisfactory drainage.

17) The assessment on a producing unit of extractive land should not be divided among partial interests in such producing unit, but such producing unit should be assessed as one unit.

18) If a producing unit of extractive land lies in more than one county, an assessment of such producing unit should be made jointly by the assessors of such counties, and such assessment should be divided among such counties in proportion to the number of acres of such producing unit lying within each county.

19) Such legislation as is needed to implement the foregoing conclusions should be enacted.

TABLE VIII

1958 ASSESSED VALUATION OF SITUS LAND FOR STATE
by Classes as Reported to the State Tax Commission

Class	Assessed Valuation	Per cent of Total Situs Land Valuation
Town and city lots	$326,103,928	92.7
Suburban tracts	16,962,970	4.8
Mountain home sites	2,328,065	0.7
Other land not classified	5,473,458	1.8
Total	$350,868,421	100.0

Once the top value, or 100 per cent lot, is determined, all other parcels are assigned percentage designations in relation to it. In commercial areas the designations are generally made for each lot; in residential areas percentage designations are generally made for each block.

When the committee has developed a pattern of relative values, the assessor, with tax commission assistance and supervision, studies sales, income, and other information that is available, and determines a market value for the 100 per cent lots. The assessed valuations for these lots are set at 40 per cent of market value in each area. These lot valuations are then converted to valuations per front foot for ease in applying them to premises having varying amounts of frontage on the street.

Then, in such areas, all lots are assessed in accordance with their percentage designations. If the assessed valuation of a 100 per cent lot in a given area is $12.00 per front foot, a 60 per cent lot is assessed at $7.20 per front foot for the number of front feet in the lot.

This fairly simple method of applying valuations for lots is followed throughout for all lots of a standard shape and depth. Adjustments are made for lots which vary from the standard. For instance, if the typical lots in an area are 125 feet deep, but in some blocks the lots are only 100 feet deep, the 100-foot lots are less valuable than the 125-foot lots. Ownership may be divided, one person owning the front 75 feet of the lot, and another the rear 50 feet. In this case, the valuation of the lot must be divided between the two owners.

TABLE VII

1958 ASSESSED VALUATIONS OF SITUS LAND BY COUNTIES

County	Assessed Valuation	Per Cent*	County	Assessed Valuation	Per Cent*
Adams	$ 11,646,350	11%	Lake	$ 419,735	2%
Alamosa	701,485	8	La Plata	3,335,985	15
Arapahoe	19,793,730	17	Larimer	10,371,110	15
Archuleta	142,621	5	Las Animas	2,237,880	13
Baca	548,455	5	Lincoln	372,520	3
Bent	371,721	4	Logan	2,256,785	5
Boulder	13,437,230	15	Mesa	6,888,170	13
Chaffee	1,076,100	13	Mineral	40,660	4
Cheyenne	116,945	1	Moffat	632,260	5
Clear Creek	654,860	16	Montezuma	841,560	9
Conejos	232,105	4	Montrose	1,020,085	6
Costilla	121,815	4	Morgan	1,815,630	4
Crowley	181,110	4	Otero	2,147,680	8
Custer	55,924	2	Ouray	116,260	4
Delta	1,251,045	9	Park	739,885	14
Denver	189,721,390	25	Phillips	344,460	3
Dolores	98,755	3	Pitkin	636,180	11
Douglas	434,730	6	Prowers	1,166,150	6
Eagle	165,405	3	Pueblo	15,156,290	14
Elbert	50,195	- 1	Rio Blanco	429,660	- 1
El Paso	21,932,400	16	Rio Grande	991,426	7
Fremont	1,847,095	10	Routt	555,280	4
Garfield	1,324,830	9	Saguache	217,050	3
Gilpin	128,575	7	San Juan	93,781	7
Grand	670,290	10	San Miguel	88,400	2
Gunnison	529,280	6	Sedgwick	292,470	3
Hinsdale	68,495	7	Summit	51,860	2
Huerfano	646,715	11	Teller	412,640	10
Jackson	65,003	1	Washington	253,005	- 1
Jefferson	21,646,070	15	Weld	6,279,360	6
Kiowa	141,890	2	Yuma	444,360	3
Kit Carson	417,230	3			

* Per cent of total assessed valuation of real property in county.

Such adjustments would be simple if the value of a lot were uniform for its full length. However, it is a well established principle that the front portion of a lot is more valuable than the rear portion. Fortunately, realtors, professional appraisers, and others who have been interested in real estate values, have reached general agreement concerning the relative values of lots of varying depths. Standard tables of depth factors have been developed by which a front-foot value of a lot of standard depth can be converted to a front-foot value for a lot of greater or lesser depth. The same tables can be used for dividing the value from front to back for various portions of the lot. Such a table is included in the Appraisal Manual. A portion of one of the tables used is included on the following page as Table IX for illustration, and the example following it demonstrates its use.

There are various other factors which influence lot valuations and which are recognized in assessing individual lots. In some areas a corner lot is more valuable than a lot in the center of the block. Lots which are not rectangular in shape also constitute a problem in applying front-foot values. These problems are complex and no attempt will be made to explain them. The appraisal manual contains instructions, tables and formulae which are commonly used by professional appraisers, and represent the best methods of appraisal available.

The assessment of situs land other than town and city lots, such as suburban tracts, rural commercial and industrial sites, and mountain home sites, is not dealt with in the manual in as much detail. However, the same principles apply. Market value is the principal guide. Value varies according to the desirability of the site for the use to which it is put. Frontage upon a street, highway or road affects the value.

The principles of appraisal which are incorporated into the manual for the assessment of this class of land are commonly accepted principles. The methods prescribed, therefore, if properly used, should produce good results in terms of assessed valuation.

Assessment Practice

Actual practice in the assessment of situs land is extremely difficult to analyze because of the extreme variations within this class of land throughout the state. There are metropolitan areas, regional trade centers, local market areas, towns, villages, hamlets, ghost towns, and near-ghost towns. Some areas are in a state of explosive expansion, others are static, and others are experiencing an economic decline. In some counties the assessment of situs land is a major problem; in others it is a very minor one.

It has been difficult to determine precisely what was done during the reappraisal program on this class of property. There have been many assessors replaced since 1952, and the new ones do not know what procedure was followed in setting up the present schedule of lot valuations. However, the schedule of valuations in use in each county has been examined, and any changes which have been made since 1952 have been noted.

TABLE IX

RESIDENTIAL LAND DEPTH FACTORS

Depth	Factor	Depth	Factor
5	.13	115	.97
10	.23	116 - 134	1.00
15	.30	135 - 144	1.03
20	.37	145 - 154	1.05
25	.44	155 - 164	1.07
30	.49	165 - 174	1.08
35	.54	175 - 184	1.09
40	.59	185 - 199	1.10
45	.63	200 - 244	1.12
50	.66	225 - 249	1.14
55	.70	250 - 274	1.16
60	.73	275 - 300	1.18
65	.76	301 - 350	1.19
70	.79	351 - 400	1.20
75	.81	401 - 450	1.21
80	.83	451 - 500	1.22
85	.85	501 - 600	1.23
90	.87	601 - 700	1.24
95	.89	701 - 800	1.25
100	.92	801 - 900	1.26
105	.94	901 - 1000	1.27
110	.95	1001 - 1200	1.28

Standard depth of lots is 125 feet. The valuation for such standard lot is $12.00 per front foot. A lot having a depth of only 100 feet would have a valuation of $11.04 per front foot (12.00 x .92). A lot having a depth of 150 feet would have a valuation of $12.60 per front foot (12.00 x 1.05).

In general, it appears that in most counties the procedure set forth in the manual was closely followed. In the large population centers, a very thorough study was made of lot values. In Denver, for instance, careful studies of pedestrian traffic in the main business district were made. Hundreds of sales were analyzed. The automobile traffic pattern was considered. The effect of zoning regulations was evaluated.

In smaller centers of population, the problem was less complex and the methods employed were less extensive and involved. In most communities of one thousand population and over, the grading of lots percentage-wise as set forth in the manual was followed. The exact procedure varied according to local problems.

In smaller communities, it was typical that little time was spent on the problem. Little variation was made in lot values in very small towns, except between the major classifications of residential and commercial. Therefore, flat valuations per lot were adopted for each class, which seemed to be reasonable with reference to meager sales information, and then valuations were applied uniformly, with individual adjustments as seemed equitable to the assessor.

As in the case of other classes of property, there were a few counties in which nothing was done. In one county, in particular, having one of the larger cities of the state, no change in lot values was made in 1952. The assessor resisted change and refused to put into effect some phases of the reappraisal program, including the reappraisal of town and city lots. Later, a new assessor was elected, the reappraisal of lots, according to manual requirements, was undertaken and new valuations were used in 1957.

It would appear, generally, that the appraisal of situs land during the reappraisal program was reasonably good. However, whether the present assessments of this class of land are still good is another question - that is, whether valuations have been adjusted to reflect changing conditions. The composition of the class of situs land is subject to tremendous change annually. Urban and suburban expansion annually adds tremendous numbers of lots and tracts to this class from land which previously was agricultural. The same trend produces great increases in the value of existing situs land. Mountain home sites increase in great numbers in some areas. Value relationships change within cities.

In Denver, for example, the construction of many new buildings has caused a shift in the point of greatest land value from the corner of Sixteenth and Stout Streets to a point closer to Broadway, a point which has not been determined exactly. Rapid increases in population have caused an increase in the amount of land used for commercial purposes, and in the value of such land. Creation of new shopping centers has added value to areas in which they are created, and has either drawn value away from the older commercial districts, or retarded the increase of value in those districts. Creation of new subdivisions brings new land into this class. The progressive development of such subdivisions adds value to the land.

Problems resulting from urban expansion are present in the Denver metropolitan area, involving four counties, as well as Boulder, Colorado Springs, Pueblo, Grand Junction, Cortez, Durango, and Aspen, and the entirely new towns of Thornton and Broomfield Heights, and to a lesser degree in many more towns and cities about the state. Such expansion, where encountered, not only presents the problem of adding more and more land to the class, but also the one of adjusting the valuations on lands previously assessed. This is necessary to maintain constant equalization of valuations in this class with those in other classes.

A problem of a somewhat different nature is found where, instead of urban expansion, there is urban decline. Economic trends in some areas are such that values are decreasing, rather than increasing. Many towns, whose economy depends upon mining have experienced an economic decline or collapse. This situation has been especially true of those towns dependent upon coal mining. The constant improvement of automotive transportation, with ever-increasing consolidation of farm units, has resulted in a shift of business and population from community centers to regional centers. As a result, many small towns dependent upon an agricultural economy have experienced decline, rather than expansion, and land values have been affected accordingly.

Even with the 1941 standard of assessment, valuations of situs lands, once established, cannot remain static. The increases in value referred to in preceding paragraphs are not due to price inflation alone. They are due principally to a change of use, and an increased value of use. Land used as grazing land in 1941 cannot be assessed at the same value in 1958, if it has since become a fully-developed residential subdivision. It cannot have the same assessment as in 1941 if it has since become the site of a factory, or a shopping center. For this reason, assessments on this land must be constantly adjusted to bear a given relationship to current market value.

The tax commission prescribed forty per cent of market value as the standard for assessment of situs land. This relationship was applied in the initial reappraisal effective in 1952. Has it been maintained since? The best answer, obviously, may be found in the results of the sales ratio study just completed. The sales ratios developed for two classes of property, namely, vacant urban lands, and miscellaneous rural land having no improvements, provide the answer.

The state-wide average sales ratio for vacant urban lands is 21.4 per cent. No county had a ratio in this class above 66.7 per cent. The ratio varied downward to as low as 12.3 per cent in one county. These ratios of 1957 assessed valuations to 1957 - 1958 sales prices are definitely lower than the 40 per cent prescribed by the tax commission in all but six counties. They are also lower than the ratios for most other classes of real estate.

The ratios for the class "miscellaneous rural lands having no improvements" are less definitive. This class may contain some lands other than situs land. However, it is principally of that class. The same low ratio appears here. The state-wide average is 16.7 per cent. The lowest county ratio is 6.8 per cent, and the highest is 60.6 per cent. Only three counties have ratios above 40 per cent.

Actually, there is no other way to compare the levels of assessment from one county to another on situs land than by sales ratio, with one exception. There is no way of judging relative values between widely separated urban areas except with reference to sales and the sales ratio study has provided this comparison.

The one exception referred to is found in the Denver metropolitan area. Here, county lines pass through urban areas. The City and County of Denver is surrounded by the counties of Adams, Arapahoe and Jefferson, and the urban area extends from Denver into each of the other counties. Except at some points, it is reasonable to assume that land values inside Denver should be little higher than those across the county line. A study of assessed valuations along this county line shows the following comparison.

Typical Valuations per Front Foot at Same Point on County Line

Residential Lots			Commercial Lots		
In Neighboring County		In Denver	In Neighboring County		In Denver
Adams	$ 7.44	$12.00	Adams	$70.00	$80.00
Arapahoe	8.00	12.00	Arapahoe	20.00	70.00
Jefferson	5.20	12.80	Jefferson	28.00	32.00

The only object in presenting these comparisons is to show that there is a difference in valuation between properties separated only by a street and an imaginary boundary line. Such differences indicate that an adjustment is needed, possibly on both sides of the line, to achieve equalization. Where an obvious difference in value because of use existed at the county line, no comparison was attempted. Examples of such cases are: when the use of the land was commercial on one side and residential on the other; and when land was fully developed on one side, and less fully developed on the other.

These comparisons are borne out by the sales ratio study, which shows the following county-wide sales ratios for vacant urban land in the four counties, as follows: Adams County, 17.9; Arapahoe County, 21.5; City and County of Denver, 24.2; and Jefferson County, 14.9. However, these ratio figures, again, merely show that there is a difference in each county, taken as a whole. There can be no direct comparison of them with the front-foot valuations at the county line areas. A study of sales occurring at or near the line shows the following comparison.

Adams County	12.4%	compared with Denver	17.4%
Arapahoe County	15.2%	compared with Denver	26.5%
Jefferson County	19.3%	compared with Denver	26.1%

Assuming that lot valuations were equalized within the class, in 1952, the main reason there is now such a wide variation in such valuations is that valuations have not been adjusted since 1952 equally well in all counties to reflect the changing pattern of lot values. The task of maintaining current equalization of lot valuations is a tremendous one when the assessor is confronted with a fluid situation of urban expansion. In many areas the rapid

creation and development of new subdivisions has confronted assessors with a difficult problem. Immediately after land has been properly assessed as agricultural land, it is purchased for residential development. Therefore, for the next assessment, the assessor must consider what the developer has paid for the land. Then the developer subdivides the land, files a plat, and begins selling lots. The assessor must then pick up the subdivision as a matter of record, and consider what valuation should be put upon lots, some of which have had no actual change other than the filing of a plat. Then streets and alleys are built, curbs and gutters, water and sewer lines are installed, and must be reflected in the assessed valuation. Finally, houses are erected upon the lots and they are purchased by individual home owners and another valuation must be considered.

This transition has been so rapid that it has been impossible for the assessors to keep completely current with their assessed valuations. Furthermore, even though an assessment may truly reflect the value of the lot on the official assessment date, the lot may have been sold at a higher value before the assessment is actually made. A comparison of an assessment properly made on the basis of one set of circumstances with a sale based on an entirely different set of circumstances is misleading. Therefore, sales of this type were not used in determining the sales ratios.

Some assessors have resorted to the expedient of using what are commonly referred to as "developer's rates". A flat valuation of perhaps $100 per lot has been used in new subdivisions until such time as all the lots have been fully developed and houses erected upon them, at which time they are assessed in relation to market value. Others have developed a schedule of progressively greater valuations to be used uniformly at different stages of development of the subdivision.

Another problem confronting the assessor is that of the assessment of land adjoining areas of urban expansion. The expansion of an urban area tends to influence the market value of near-by land which is not currently being developed, and some land which has not been included in any plans for development. Speculators buy such land for a much higher price than is justified. Should this land be assessed for a greater amount because it has been sold for a greater amount? Also, should adjoining land which has not been sold and which is still used for strictly agricultural purposes also be assessed for a greater amount simply because of potential value of the use if changed at a later date?

Findings and Conclusions

1) The system for the appraisal of situs lands contained in the Assessor's Appraisal Manual represents the most commonly accepted appraisal practice for this class of property, and, if properly and thoroughly applied, should produce satisfactory assessments.

2) For purposes of assessment, situs land should be defined as that land which is neither agricultural nor extractive, and which derives its value from the use of its surface as the location or situs for buildings, or for activities which are neither agricultural nor extractive in nature, or from the intention that it shall be put to such use.

3) Situs land should be assessed according to its value for use as the site of buildings or as the site of an activity which is neither agricultural nor extractive in nature.

4) The value for such use should be determined by the average market value of similar properties similarly situated.

5) For purposes of such assessment, situs lands should be classified within each area of similar use according to any and all factors which influence the value of their use.

6) No land should be assessed as situs land which is used solely and exclusively for agricultural or extractive purposes, provided that such land forms a part of an economic unit for agricultural or extractive purposes.

7) Such legislation as is needed to implement the foregoing conclusions should be enacted.

VIII

THE ASSESSMENT OF IMPROVEMENTS

Improvements, as a class of property for purposes of assessment, includes all structures built upon land or affixed thereto, and all appliances affixed to said structures. It also includes water rights, by statutory definition.

The assessed valuation of this class of property is a major part of the total assessed valuation of the state. The total 1958 assessed valuation of this class of property was $1,518,659,854, which is 46.3 per cent of the total assessed valuation of all property in the state. Table X shows, for each county, the total assessed valuation of improvements, and its relative importance in relation to the total valuation of real property. Table XI shows the total 1958 assessed valuations of various classes of improvements as reported to the tax commission by the county assessors.

Constitutional and Statutory Provisions

There are no constitutional provisions relating to assessment of improvements. Statutory provisions relating specifically to the assessment of improvements are as follows:

"Improvements shall be listed and valued separate and apart from land, except lands which are used for agricultural purposes, which agricultural lands shall be valued as a unit with the improvements and water rights located upon them." 1

"The term 'improvements' includes all water rights, buildings, structures, fixtures and fences erected upon or affixed to land, whether or not title to said land has been acquired."[2]

Tax Commission Policy

Tax commission policy for the assessment of improvements is contained in the Assessor's Real Estate Appraisal Manual, hereafter referred to as the manual, published by the tax commission. This manual, which was prepared by the Department of Re-appraisal during the re-appraisal program, contains instructions for appraising improvements, as well as land, a system of building classification, a pricing section, and instructions and tables for the allowance of depreciation and obsolescence.

The process of assessing improvements is one of mass or wholesale appraisal. Truly accurate appraisals can be made only by a detailed appraisal of an individual building. However, such an appraisal is not possible for assessment purposes because of the volume of property which must be appraised. A method is required which permits the best practical appraisal of all buildings by use of simple procedures within the limitations imposed by availability

1. C.R.S. 1953, Sec. 137-12-8.
2. C.R.S. 1953, Sec. 137-12-2(5).

TABLE X

1958 ASSESSED VALUATION OF IMPROVEMENTS BY COUNTY

County	Assessed Valuation	Per Cent*	County	Assessed Valuation	Per Cent*
Adams	$ 81,066,380	77%	Lake	$ 6,238,900	35%
Alamosa	5,628,516	63	La Plata	13,478,970	61
Arapahoe	94,331,120	81	Larimer	48,783,950	68
Archuleta	1,043,060	38	Las Animas	7,319,960	42
Baca	3,637,090	30	Lincoln	3,834,375	33
Bent	3,164,781	36	Logan	14,852,155	34
Boulder	68,423,870	75	Mesa	37,920,520	71
Chaffee	5,618,150	70	Mineral	533,399	59
Cheyenne	1,869,075	21	Moffat	4,633,340	38
Clear Creek	2,372,640	56	Montezuma	6,183,315	64
Conejos	2,303,885	36	Montrose	8,227,915	46
Costilla	1,393,295	42	Morgan	18,958,410	39
Crowley	1,772,135	37	Otero	17,089,325	68
Custer	940,530	40	Ouray	1,025,282	36
Delta	7,903,810	60	Park	2,223,605	41
Denver	574,351,790	75	Phillips	5,055,855	39
Dolores	1,676,250	46	Pitkin	4,163,330	72
Douglas	3,994,580	59	Prowers	8,134,550	45
Eagle	2,680,977	45	Pueblo	86,528,640	81
Elbert	2,502,705	33	Rio Blanco	3,221,945	5
El Paso	109,790,160	81	Rio Grande	6,706,753	50
Fremont	14,390,385	79	Routt	5,801,370	45
Garfield	7,988,900	56	Saguache	2,426,080	31
Gilpin	960,180	50	San Juan	433,069	31
Grand	4,657,715	68	San Miguel	1,528,600	31
Gunnison	4,585,865	54	Sedgwick	3,972,190	41
Hinsdale	521,010	55	Summit	1,399,865	43
Huerfano	3,263,300	57	Teller	2,394,150	59
Jackson	1,549,217	31	Washington	4,415,735	13
Jefferson	115,453,310	82	Weld	47,822,440	49
Kiowa	2,211,110	26	Yuma	5,835,040	35
Kit Carson	5,471,030	37			

* Per cent of total assessed valuation of real property in county.

TABLE XI

1958 ASSESSED VALUATION OF IMPROVEMENTS FOR STATE BY CLASSES AS REPORTED TO STATE TAX COMMISSION

Class of Improvements	Assessed Valuation	Per Cent of Total Valuation of Improvements
Improvements on Farms, Ranches and Rural Tracts	$149,236,268	9.8
Rural Commercial Improvements	44,663,620	2.9
Rural Industrial Improvements	76,693,751	5.1
Improvements on Public Land	3,057,227	0.2
Improvements on Mountain Home Sites	7,415,364	0.5
Urban Residential Improvements	907,691,952	59.8
Urban Commercial Improvements	271,818,681	17.9
Urban Industrial Improvements	58,082,991	3.8
Total	$1,518,659,854	100.0

of manpower, budgets and physical equipment. The appraisal methods contained in the manual are designed to meet the requirements of efficient mass appraisal.

The appraisal system contained in the manual is based upon a classification of buildings according to functional use, type of material, and quality of material and workmanship. Buildings are classified into twenty-two functional classifications: five residential, eleven commercial, three industrial, and three farm. These are, in turn, divided into many sub-classes according to types of materials used (frame, brick, stone, structural steel, etc.) and grades of materials and workmanship.

The manual provides a set of base specifications for each class to be used in determining into which sub-class a building most nearly fits. These usually include specifications for foundations, floor, roof, exterior walls, interior finish, basement, attic, heating system, plumbing, wiring and other building items, such as fireplace, ventilation, fire protection and elevator.

In addition to the classification section of the manual, and supplementary to it, is a pricing section. In this section, unit costs are provided for use in calculating the reproduction cost of a building according to its classification and construction features. These are construction costs that prevailed in the year 1941. This section includes tables of base unit costs for each sub-class. These are in the form of costs per square foot of ground area, varying according to ground area, and number of stories. A medium grade residence of 1000 square feet on one floor has a cost of $3.70 per square foot, while one of 2000 square feet on one floor has a cost of $3.14 per square foot. Costs on the two buildings if they have 1½ stories would be $4.88 and $4.19, respectively; 2 stories, $5.53 and $4.76; 2½ stories $6.70 and $5.83. The use of these unit costs gives a base reproduction cost of a building, if it fits the specifications of a class reasonably close.

In addition, unit costs are provided for adding to or deducting from the base reproduction cost in cases where there are variations of the building from the base specifications of the class. Such adjustments are provided for variations from class standards in foundation, exterior walls, roof pitch, roof framing, roof surface, basement, attic, floors, interior finish, heating systems, plumbing fixtures, lighting, etc. Costs per square foot are provided for the addition of porches, terraces and other such additions to the main building. For instance, a one-family residence classified as 1.3, but varying from the base specifications of that class in certain respects, may have the following additions and deductions:

For insulated walls	an addition
For asphalt shingle roof instead of wood	a deduction
For low-pitch roof	a deduction
For a partial basement	a deduction of full basement and addition of partial basement

For lack of tile floor in bath	a deduction
For hot water instead of warm air furnace	a deduction of warm air furnace and addition of hot water
For any variation in plumbing fixtures from three-fixture bath	addition or deduction of fixtures
For a fireplace	an addition

The appraisal procedure outlined in the manual is as follows. The first step is the preparation of a property card upon which are recorded the legal description of the property and the name of its owner. The subject building is inspected, measured, and photographed. A ground floor diagram of the building, showing dimensions, and a description of all physical features pertinent to the appraisal are entered on the card. The building is classified according to the manual, and all pertinent variations from class are noted. The area of the building and any other units of computation are computed. Unit costs are taken from the manual, and the base cost of the building is computed. Then all additions and deductions are computed, added and deducted. The result is the base reproduction cost of the building at the 1941 level of construction costs.

The base reproduction cost is then discounted for any loss of value resulting from aging, wear and tear, obsolescence, loss of utility, and economic conditions which affect its value. The major item of discount is normal depreciation. Normal depreciation includes the normal loss of value due to aging, normal wear and tear with typical maintenance, and architectural obsolescence. Tables are provided in the manual for use in calculating this depreciation. The rate of depreciation varies according to the classification of the building and its age.

Tax commission policy concerning the discounting of base reproduction cost for various reasons is: 1) that no more than sixty per cent reduction from base reproduction cost be allowed for normal depreciation; 2) that no more than eighty per cent reduction be allowed for a combination of all causes, so long as the building is fully utilized; 3) that no more than ninety per cent total reduction be allowed so long as the building remains standing; 4) that no uniform blanket percentages of reduction applying to all buildings in a county be allowed; and 5) that depreciation must be calculated and allowed at least once in every five years, provided that a complete inspection of the building is made at the time of depreciation.

In addition to allowance for normal depreciation, the assessor may allow for abnormally poor physical condition. That is, if the building has deteriorated more in physical condition than is normal for a house of its age with typical maintenance and care, the assessor may reduce the valuation at his discretion.

Normal obsolescence of architectural style which comes with age is a factor which is included in the normal depreciation percentages. Other forms of obsolescence or loss of value through loss of utility may be

allowed. Examples of such loss are the loss in value of a horse barn after a farm is completely mechanized, loss in value of any building which no longer has any use where it is situated, and loss in value of portions of mercantile buildings which are no longer required for use.

Loss in market value which occurs because of the economic condition of the area in which a building is located may also be recognized and allowance made therefor. Such allowances usually are justifiable in the slum areas of cities, or in small towns which have experienced economic decline. Since such loss of value may vary with different buildings, the use of blanket uniform discount allowances applied to all improvements in a county, or in a class, is not permitted. It is possible that a similar loss of value may occur for all similar buildings within a given area, and that therefore, a uniform percentage may be allowed for all of them. However, conditions justifying such an allowance are usually limited to definite areas within a city, or to particular small communities within a county, and not to an entire city or an entire county. Also a different percentage of reduction may be justified for commercial buildings than for residential buildings, for expensive buildings than for inexpensive buildings.

Assessment Practice

With the use of the manual provided by the tax commission, remarkable progress has been made by all assessors in the assessment of improvements. A comprehensive inventory of buildings has been taken and made a permanent record. Detailed data concerning all buildings are a matter of record. Appraisals have been made according to a definite system (a revolutionary development). It is evident that assessments are much better than before.

However, a careful investigation of assessment practices, inspections of records and many buildings has shown that there is much lack of uniformity in the use of the manual by the assessors and their appraisers. This lack of uniformity results in differences in assessments on similar buildings in different counties. Some county assessors have adopted variations of the manual for their own use. Some of these are merely mechanical adaptations of the manual to provide more efficient use and produce comparable results. Some variations are discussed in the following paragraphs.

The official manual provides that for a particular grade of one-family dwelling the cost of a full basement is included in the base cost of the dwelling. If a particular dwelling has no basement, the cost of the full basement must be deducted. If it has only a partial basement, the cost of the full basement must be deducted and the cost of the partial basement added. In some counties, where it is found that most houses of this class do not have full basements, new cost tables have been constructed wherein the cost of the full basement has been removed from the base cost of the house. Then the cost of whatever basement may be present in a particular house is added. This procedure saves many man-hours of labor and produces identical results.

The official manual may provide, for a particular class of house, that a particular type of heating system is included in the base cost. If a

different type is actually present, there must be both a deduction from and an addition to the base cost. In some counties, the combinations of costs have been rearranged to more nearly match the type of house found there and thereby save labor, without affecting the accuracy of the results.

In order to save clerical work, some counties have constructed from the unit cost tables what might be referred to as tables of valuation. In using the manual, the area of the house and of each item of addition or deduction must be multiplied by a unit cost taken from the pricing section of the manual For instance, if the pricing section shows that a house having 1000 square feet of ground area should be priced at a unit cost of $4.50 per square foot, the computer must multiply 1000 square feet by $4.50 every time he encounters this combination. Valuation tables, on the other hand, make it possible to determine directly by reference to the tables that the 1000 square-foot house has a base cost of $4,500, thus saving the computation.

One county has adopted a completely new handbook for its own use, representing a simplification of the official manual, but based upon it. Although this handbook produces reproduction costs similar to those produced by the official manual, the results are not identical. Particularly for commercial type buildings, the reproduction costs may vary considerably from those which are obtained by using the official manual. The chief reason for this adaptation was the need for a reduction in the amount of work involved in appraising a huge volume of buildings by eliminating many of the additions and deductions contained in the official manual, as well as by providing more efficient methods of computation. In general, the differences in results tend to be minor, although some are quite significant.

In mentioning this adaptation, no implication is intended that the county assessor is refusing to comply with tax commission policy, for the use of this handbook was accepted by the tax commission for use in this particular county. Also it is not intended to imply that this handbook is either better or worse than the official manual, but only that it is different.

One county has used the manual in the appraisal of only part of its improvements. Appraisals of improvements in the county seat made prior to the re-appraisal program by a system previously in use have not been changed. This system is based upon cubic feet as the unit of computation and upon a system of classification different from that in the manual.

In classifying buildings, there is a lack of uniformity from county to county. Similar or identical dwellings, for instance, may be classified as 1.2½, 1.3, and 1.3½ respectively in each of three counties, each of the three classes representing different quality of materials and workmanship. Such a variation was demonstrated within the past year by assessors themselves in four adjoining counties. In a comparison of similar super-market buildings in five different counties, the appraisals have been found to be significantly different in each county. Such mis-classification of buildings can have a significant effect upon the comparative valuations. Under-classification of a dwelling by one-half class can reduce its valuation by as much as twelve and one-half per cent; under-classification by a full class can reduce its valuation by twenty-five per cent.

In other ways than by mis-classification, many assessors are mis-using the manual, deliberately in some cases, unintentionally in others. Many of the minor adjustments for variations in roof, interior finish, etc., are omitted in order to save work. There are divergent interpretations of what constitutes a one and one-half story house as compared with a one-story house with finished attic on the one hand, or a two-story house on the other. Some assessors have mis-interpreted the use of the heating cost tables in various ways. Some assessors are using a cost per fixture or per combination of fixtures for plumbing adjustments when the manual calls for a cost per square foot of ground area of the building.

Some assessors, as a matter of policy, have adopted the use of lower than manual costs on some items of construction, because the manual costs are high in relation to current costs, the costs in question having been subject to little or no inflation since 1941. Some of the items treated in this manner are asphalt, vinyl and rubber tile, asphalt paving, fluorescent lighting and garbage disposal units. In doing this, they overlook the fact that there are other items of cost which are relatively low in comparison with current costs and should, by the same token, be increased.

There is a great variation in practice in discounting reproduction costs for depreciation and obsolescence. Under tax commission policy, assessors were required to allow five years of normal depreciation in 1957, after inspecting buildings to determine that appraisals were currently correct. Investigation has developed the following information concerning compliance with this requirement:

a) thirty-seven counties did so in 1957, claiming that a complete inspection was made;

b) five counties did so in 1957, admitting that only a partial inspection was made;

c) five counties did so in 1957 for the improvements in one-fifth of their counties as part of a five-year program;

d) two counties did so in 1957 on urban improvements only;

e) four counties did so in 1956, claiming complete inspection;

f) one county did so in 1956 on buildings less than five years old, only;

g) two counties used "observed" depreciation rather than using the depreciation tables provided in the manual;

h) one county deducted a flat ten per cent from the existing valuation of all buildings, except those which had already received maximum depreciation, and except those built within the last five years;

i) six counties allowed no further depreciation in 1957.

About twenty counties have allowed total normal depreciation beyond the sixty per cent maximum prescribed by the tax commission. They attempt to justify doing so on the ground that the buildings concerned are entitled to the extra reduction in valuation because of the influence of other factors, such as excessively poor physical condition, or various types of obsolescence. This is not good assessment practice. The sixty per cent maximum rule should be adhered to and any additional reduction in valuation should be for reasons specified in each case, and at a percentage determined by careful analysis of specific factors.

In the use of various adjustments, for reasons other than age, there is no uniform practice. Some counties have adopted the use of uniform, county-wide percentage allowances. Two counties allow 30 per cent off valuations on all farm and ranch improvements. One county allows 25 per cent off all improvements. Two counties allow 15 per cent and 20 per cent respectively off all new buildings. These are all practices which have definitely been determined to be in use in these counties. There may be other such practices that have not been discovered. Justification for such wholesale reductions is questionable, although many of the properties may be entitled to reductions of various percentages on an individual basis.

On the other hand, there are local conditions in some counties which would likely justify some reductions of valuations, but which are not being recognized by assessors--localities where market values are greatly depressed by local economic circumstances; types of buildings that have lost value through loss of utility, and so forth.

Sales-Ratio Analysis

An analysis of sales-ratio results with respect to assessments on improvements leads to the following conclusions:

1) There are significant variations in ratios for urban improvements between counties. Where such a difference exists between counties with similar economic conditions, where similar market values may be expected to prevail, a difference in assessment practice is indicated. Such differences result from divergent practices in the classification of buildings and in the use of allowances for depreciation and obsolescence. The assessed valuation on single family dwellings as a class represents a very significant part of the total assessment on improvements in the state. Therefore, a study of comparative ratios for this class of buildings should be indicative of the comparative levels of assessments on all buildings. The state average sales ratio on this class is 28.1 per cent. County ratios range from a low of 15.8 per cent to a high of 49.1 per cent.

Perhaps a better indication of the results of current appraisal practice may be found in the ratios for the more limited class of single family dwellings constructed from 1950 to 1957, inclusive. These appraisals have been made largely during the years since the mass re-appraisal was accomplished. For this class, the state average ratio is 31.8 per cent, somewhat higher than the ratio for single family dwellings of all ages. The county ratios for this class range from a low of 13.4 per cent to a high of 51.4

per cent. One county, in which there has been a blanket 25 per cent reduction of assessed valuations on improvements, has a ratio of 22.2 per cent for this class, which is 30 per cent less than the state average ratio. Four adjoining counties which have been shown to classify dwellings at different levels have ratios for this class of 34.7 per cent, 32.4 per cent, 31.7 per cent, and 28.7 per cent, respectively, in direct relation to their classification practices.

2) Where such differences exist between one county which is prosperous and one which is depressed, economically, the ratio being higher in the depressed county, it is indicated that in the depressed county there is justification for a percentage reduction in assessments to allow for economic loss of value. In some counties there are many factors operating to produce either a high ratio or a low ratio, and sometimes two factors may operate to cancel the respective effects of each. However, in seven counties where there is a high level of prosperity, accompanied by accelerated building activity, ratios for single family dwellings range from 15.8 per cent to 26.2 per cent. While other factors are likely operating in each of these counties, the inflated real estate values resulting from economic expansion undoubtedly have had an influence on the ratios. On the other hand, the seven counties having the highest ratios, from 31.1 per cent to 49.1 per cent, are counties in which at least a major part of the urban areas are suffering economic distress.

3) Variations in ratios are found to exist between urban communities within the same county. Comparison of these ratios with conditions known to exist in the counties indicates that there are economic losses of value in some depressed areas within counties which would justify reductions in assessed valuations which are not now being made. In one county where the ratio of assessments at the county seat is 23.6 per cent, the ratio at a small town known to be in economic distress is 48.5 per cent. In this county no allowance for this condition has been made by way of reduction of assessments in the small town. Numerous other such illustrations can be found.

In many counties where assessments in certain communities have been reduced because of economic conditions, such reductions are shown to be justified by the sales ratio results. Following are several examples where reductions have been made in certain towns not the county seat and the ratio is very nearly the same as for the county seat:

County Seat Ratio	Ratio, Other Town	Percentage of Reduction Allowed in Other Town
24.6	24.6	10%
26.3	26.1	10
35.8	35.2	30
27.3	28.0	10

In other counties where assessments in certain communities have been similarly reduced, sales ratio comparisons indicate that the reductions have been inadequate. Following are several examples of such situations:

County Seat Ratio	Ratio, Other Town	Percentage of Reduction Allowed in Other Town
27.3	68.8	20%
24.7	38.9	10
31.1	46.6	10
39.8	65.9	30
23.2	27.1	10

In another county where the assessor has allowed a discount for seasonal occupancy in two resort towns, the ratios in these towns are found to be 20.8 per cent and 20.3 per cent, respectively, while the ratio in the county seat is 25.0 per cent, and in other towns somewhat higher. This indicates that the discounts allowed in the resort towns were not justified.

4) Ratios of assessments on older dwellings tend to be lower than those of assessments on newer dwellings. Separate ratios were developed for assessments on dwellings within five separate age groupings. The age groupings and state average ratios for each are as follows:

a) Dwellings built during the 1950's 31.8%;

b) Dwellings built during the 1940's 29.1%;

c) Dwellings built during the 1930's 27.0%;

d) Dwellings built during the 1910's and 1920's 24.6%, and

e) Dwellings built prior to 1910 22.0%.

County assessors have been aware of this progressively lower level of assessment on older dwellings for several years. They have tended to blame the normal depreciation table which is in use for this result, claiming that the rate of depreciation is too rapid and that the maximum rate of depreciation of eighty per cent originally allowed during the re-appraisal program was too great for dwellings which had been maintained in reasonably good condition. An attempt at correction was made by the adoption of the rule that no more than sixty per cent normal depreciation be allowed. Yet the older dwellings still are assessed comparatively lower.

The use of a depreciation table that does not truly reflect comparative market values of dwellings of different ages may be a part of the cause for this comparative difference in assessed valuation. However, inspection of appraisals in many counties has led to the conclusion that there is at least one other factor contributing to the progressively lower ratios of valuations on older dwellings. There is a tendency among many appraisers to over-classify new dwellings because they are modern and attractive and to under-classify old dwellings because they are architecturally obsolete and unattractive in the eyes of the appraiser.

5) Ratios of assessments on commercial and industrial type improvements are, in general, higher than those for residential buildings. Table

XII shows the state average ratios for each of the three major classes of urban improvements and the average ratios of each county for the same classes.

In thirty-six counties ratios for commercial buildings are higher than those for residential buildings, and in twenty counties ratios for industrial buildings are higher than residential ratios. There are only fifteen counties where ratios for commercial buildings are lower than the ratios for residential buildings, and in only four counties are industrial ratios lower than those for residential.

This situation is probably the result of a combination of two factors. First, particularly in smaller communities where commercial buildings are not very elaborate, there has been a tendency on the part of inexperienced appraisers to over-classify commercial buildings. Second, various losses of value have not been adequately allowed for, especially in the case of older buildings. Many commercial buildings are in use today that have a much higher reproduction cost than a newer building would have which would be adequate to the needs of the person using the building. Therefore, the persons having a use for such buildings are not inclined to pay more for them than it would cost them to construct an adequate building, and as a result the market value of the older buildings is deflated in relation to their reproduction costs. Furthermore, with the shift of business away from older business centers and with the erection of more modern commercial buildings, many older buildings suffer an economic loss of value. This is true even in the larger cities.

Assessors seem to be reluctant to allow reductions from assessed valuations because of the losses of value experienced by commercial buildings. As a result, many commercial buildings are over-assessed with relation to their market value. In some counties, it would appear, however, that adequate allowances have been made, and in a few, that excessive allowances have been made.

A similar situation exists with reference to industrial buildings. However, it should be pointed out that most sales of industrial buildings are those of small industries, and that many sales are those of obsolete buildings which are being replaced by modern buildings. There have been insufficient sales of larger and more modern industrial buildings to provide any measure of the assessment levels for them.

Criticism of Appraisal Manual

Analysis of sales-ratio results shows that assessed valuations on improvements are not equalized, among counties, among different communities within the same county, among different classes of improvements, or with other classes of property. Analysis of actual practice among county assessors in the use of the appraisal manual has revealed that there is marked lack of uniformity in such use of the manual.

The lack of equalization is caused by a number of factors: 1) faults which may be found in the manual itself; and 2) lack of uniformity in its

TABLE XII

AVERAGE SALES RATIOS OF URBAN IMPROVEMENTS,
BY COUNTIES, AND BY CLASSES

County	Residential Improvements	Commercial Improvements	Industrial Improvements
Adams	29.9%	29.1%	35.0%
Alamosa	27.0	31.8	29.5
Arapahoe	29.1	40.3	38.1
Archuleta	28.8		
Baca	26.4		
Bent	30.2	53.7	
Boulder	30.5	29.7	22.0
Chaffee	25.8	30.9	71.2
Cheyenne	40.8		59.0
Clear Creek	15.8	22.4	
Conejos	36.5	27.2	151.1
Costilla	49.1		
Crowley	24.0	180.4	
Custer	22.9	69.0	
Delta	26.6	32.6	
Denver	30.4	35.1	39.5
Dolores	30.5	41.8	
Douglas	25.3	18.0	
Eagle	31.1	52.1	
Elbert	24.2	203.9	
El Paso	23.4	21.1	25.6
Fremont	22.4	42.3	
Garfield	24.6	23.8	
Gilpin	19.0	25.8	
Grand	27.0	24.3	38.4
Gunnison	24.5	28.6	
*Hinsdale			
Huerfano	29.9	22.7	
Jackson	23.5	52.0	
Jefferson	26.2	25.3	19.7
Kiowa	29.0	24.5	
Kit Carson	26.8	49.6	55.4
*Lake			
LaPlata	22.4	26.2	
Larimer	27.5	29.5	33.3
Las Animas	28.8	70.8	
Lincoln	23.7	21.3	
Logan	24.7	35.3	43.3
Mesa	27.4	22.5	31.2
*Mineral			
Moffat	23.2	31.8	29.6

TABLE XII (Concluded)

County	Residential Improvements	Commercial Improvements	Industrial Improvements
Montezuma	23.6%	24.0%	
Montrose	25.8	30.9	24.9
Morgan	29.4	38.8	33.6
Otero	31.0	83.4	49.4
*Ouray			
Park	31.1	17.0	
Phillips	23.6	41.7	
Pitkin	19.4	20.8	
Prowers	29.4	36.3	
Pueblo	23.8	29.3	31.5
Rio Blanco	26.9	69.0	92.0
Rio Grande	32.8	31.0	17.8
Routt	39.2	41.7	59.7
Saguache	29.3	40.0	
*San Juan			
*San Miguel			
Sedgwick	29.3		
Summit	29.8		
Teller	24.0	21.3	
Washington	26.4	42.5	
Weld	28.2	37.6	39.9
Yuma	24.6	26.1	
State Averages	28.1	32.0	37.1

* No classified ratios due to sparsity of sales. In all cases where no ratio is shown, no ratio was developed for the class due to sparsity of sales.

use. The lack of uniformity in use of the manual likewise has a number of causes: 1) lack of understanding of the use of the manual by assessing officers; 2) variable interpretations of the use of the manual, which is partly caused by a deficiency in the manual itself; and 3) ineffective instruction, supervision and enforcement by the tax commission.

In spite of the fact that part of the fault can be traced to misuse of the manual, it can be said that the manual in its present form, even if applied uniformly, will not produce equalized assessments. It can also be said that some of the divergent practices noted represent attempts of individual assessors to compensate for faults of the manual which are recognized by them.

The manual is over-complicated. It requires much attention to relatively unimportant details with respect to construction features, while completely overlooking equally important details. By so doing, it requires much more work on the part of appraisers and computers than should be necessary. The manual requires adjustments from base reproduction cost for variations in roof pitch, roof structure, roof surface, lack of tile floor in the bath, and many other variations from class specifications which result in very minor adjustments in assessed valuation. These adjustments represent refinements which would seem desirable, except that their use requires more labor than can be justified by the magnitude of the adjustments, and except for the fact that numerous variations from class which are equally important are completely ignored. Variations in the interior partitioning, many variations in type or quality of interior finish, presence or absence of storm windows, shutters, window screens, roof gutters, and so forth, are not subject to adjustment. Variations in cost per square foot of ground area for variations in ground floor plan are not recognized. An "L" or "T" shape or an elongated rectangle costs more per square foot than a square shape, but this difference is not recognized in the manual. The manual provides a flat amount to be added for any kind of fireplace, completely ignoring the wide variation in cost actually found among fireplaces.

The classifications and procedures for appraisal of commercial buildings is especially complicated. The classification of such buildings for use of unit costs is too cumbersome and inadequate. The commercial section of the manual is not adequately understood by many appraisers and assessors. Many buildings do not fit in the classification which an appraiser attempts to use, and painstaking adjustment to allow for variation from class is necessary. A simpler and more satisfactory method would be to appraise the cost of various components found in each building, such as foundation, floors, walls, roof, etc., and add together whatever components are present in each building. This would not require an attempt to classify the buildings.

While the use of a classification system for residential buildings, which are more amenable to classification than are commercial buildings, is desirable, the present system of classification is not being uniformly applied. The classification system in the manual is capable of divergent interpretation by different appraisers. This seems to be partly due to the fact that class specifications contained in the manual are insufficiently

definitive. It is partly due to the fact that appraisers and assessors have been insufficiently instructed and trained in the use of the classification system.

The manual is obsolete in two respects. First, since it was developed, there have been new developments in the construction of buildings for which the manual provides no means of appraisal. New building materials and new methods of construction have been developed for which the manual contains no costs. New types of commercial buildings have been designed and constructed which do not fit into any classification in the manual. Examples of these are modern medical and dental clinics, one-story office buildings, supermarket buildings, super service stations, modern skyscraper structures, and drive-in structures. Also, new types of residential buildings are difficult to classify and appraise from the manual. Mass-constructed housing on the one hand, and custom-built dwellings of unusual design on the other, constitute special problems for which the manual has no provision.

Second, the use of 1941 costs of construction has, today, become unrealistic, particularly when an effort is made to compare resulting valuations with current market values or the actual costs of current construction. The various components of materials and labor have not inflated in cost at a uniform rate since 1941. Some types of material which were relatively new in 1941 cost even less today than they did in 1941. It is futile to try to convert the current cost of materials which did not exist in 1941 to a 1941 level of cost.

The manual requires much more mathematical computation than is necessary.

Manual policy with reference to depreciation does not truly reflect current market conditions.

Need for Manual Revision

In view of the faults found in the present manual, a new manual should be developed and issued to the assessors. This manual should be based on current construction costs, and provision should be made to maintain it on a current basis. Means of converting costs of one year to those of another should be provided. In order to make this possible, a complete file of detailed material and labor costs should be maintained by the tax commission to support the unit costs in the manual. There is no such file of 1941 costs with the present manual.

A simplified system of classification and appraisal should be provided for use with residential buildings. Simpler methods of computation should be developed. Specifications of class should be more definitely set forth so as to encourage greater uniformity in classification.

The system of classifying commercial and industrial buildings should be abandoned, and a system of addition of vertical and horizontal components should be substituted therefor.

A new table of normal depreciation which more truly reflects loss of value experienced by buildings should be provided. In constructing such a

table, a careful study of sales of buildings of various ages and classifications is needed to determine what loss in value actually results from normal aging, with reference to current market values.

Provision should be made for such adjustments from reproduction cost as are required to reflect actual variations in market value. The use of a sales ratio study should be continued for this purpose.

During the course of this study consideration has been given to the need of an early revision or replacement of the manual along the lines suggested above. At the invitation of the tax commission, a committee of county assessors studied the problem at great length and recommended a form of new manual to be adopted, the recommendations being in considerable detail. No action has been taken to adopt and implement their proposal, mainly because of the cost involved. It was estimated that such an undertaking might cost as much as $300,000. Not having funds to undertake such an expensive project, and having no assurance that sufficient funds would be made available, the tax commission has undertaken a limited project during the past year. It is studying the current costs of modern mass-constructed dwellings and is developing a method of appraising such buildings on a current-cost basis which may be placed in the hands of the assessors as a supplement to the present manual.

In general, the proposal made by the assessors meets the requirements outlined in the above paragraphs, except in two respects. First, a greater simplification of the system of appraising residential buildings than they recommend would be desirable. Second, their recommendation that separate manuals be developed for each of several economic regions within the state reflecting the costs of construction in each region seems unnecessary and excessively costly. It is true that regional differences do exist and it is necessary that these differences be recognized in assessed valuations. However, a uniform system of appraisal based on uniform costs should be used in determining reproduction costs, regardless of location. Then reproduction costs so determined can be adjusted for regional, and even local, variations in actual market value, resulting from varying economic conditions, by means of a continuing study of real property sales.

Special Problem on Assessment of Farm and Ranch Improvements

The law provides that "improvements shall be listed and valued separate and apart from land, except lands which are used for agricultural purposes, which agricultural lands shall be valued as a unit with the improvements and water rights located upon them."[3] The underlined portion of this statue was adopted as part of House Bill No. 4, 1957. This was an amendment of Sec. 137-1-2, which read: "Improvements may be listed and valued separate and apart from land." This latter phraseology had been adopted in 1953 as an amendment to Sec. 142-1-2, CSA 1935, which read: "Land to be listed and valued separate and apart from the personal property and improvements thereon."[4] As can be seen, the progression was from the

3. C.R.S. 1953, Sec. 137-12-8.
4. Law 1902, p. 43.

requirement in the 1902 law that land and improvements be listed and valued separately, to the 1953 amendment permitting unit valuation, to the 1957 amendment requiring unit valuation in the case of agricultural land.

The background of these changes in the law is to be found in the feeling of owners of agricultural land that improvements on the land have no value separate and apart from the land, that they should be so treated for assessment purposes, that the practice of determining a land valuation and then adding to it the appraised value of all buildings situated upon the land results in an over-assessment. Their theory is that each farm unit, including its improvements, is worth a certain amount as a unit, that it is bought, sold, leased, or operated on this basis, and that it should be assessed accordingly.

The adoption of the 1957 amendment referred to above has resulted in no change in assessment policy or practice. The assessors have not changed their methods of assessment and the tax commission has not changed its policy. The position of these officials is that an appraisal of a farm unit, as of any other property, can be made only by appraising its component parts. Having done this, the mere form of combining the separate valuations into one total valuation is meaningless, and that as long as land and improvements are appraised separately they should be listed seperately in order that it can be known what valuation has been placed on the separate components. The tax commission contends that under its authority to "classify, diminish or add to the forms of abstract and to require such different, or further matters to be returned as it may deem advisable",[5] it still has the authority to demand that the assessors list improvements separately, in spite of the provisions of Sec. 137-12-8.

Controversy has developed which is fraught with emotion on both sides, and it is essential that a solution be found that will settle the controversy within the limits of the requirement of equalized assessments. Actually, a part of the trouble results from a regrettable misunderstanding.

Present tax commission policy, as embodied in the manual, recognizes "The principle that the combined assessed value of farm lands and improvements on any one farm parcel should not exceed the fair pre-inflationary sale value of that parcel".[6] In recognition of this principle, certain rules were provided in Section E of the manual for the allowance of loss of value of farm and ranch improvements for various reasons. Loss of individual building utility due to a change in type of farming or farming techniques may be recognized by reduction of valuation to a minimum of ten per cent of reproduction cost (1941 level). Such buildings as horse barns on mechanized farms, now used as machinery sheds, with much space no longer usable, dairy barns on units that have changed from dairy farming to strictly cropping operations, and large hay barns on farm units that no longer have any need for storage of quantities of hay may be treated in this manner. Loss of

5. C.R.S. 1953, Sec. 137-3-42.
6. Assessors' Real Estate Appraisal Manual, page C5.

utility due to consolidation of farm units into larger units, leaving complete sets of improvements which are no longer used, may be recognized by reducing the assessment on unused buildings to a minimum of ten per cent of reproduction cost. As with other classes of improvements, an allowance can be made for physical deterioration of a building beyond what is normal for its age. An allowance can be made for "over-improvement"--the investment of more money in buildings than can be economically justified by the productive capability of the farm unit.

The actual application of these principles by county assessors leaves much to be desired. Some assessors, as a matter of policy, are reluctant to grant allowances where justified. Others, in recognition that various types of obsolescence do exist, grant a uniform percentage off of the assessed valuations of all farm improvements, instead of treating each farm unit as an individual problem to be judged on its own merits. This practice is not authorized by the tax commission, but an attempt in 1956 on the part of the commission to end the practice was thwarted by the state board of equalization.

Some proponents of unit assessment contend that improvements add nothing to the value of a farm unit, that farm units having no improvements will sell for just as much per acre as units having improvements, and that, therefore, no assessment should be placed upon improvements. This contention is found particularly in the dry farming areas of the high plains. Attention to sales should illuminate this question considerably.

The state average ratio of agricultural land having improvements is 25.7 per cent, while the average of agricultural land having no improvements is 20.2 per cent. This could indicate either that farm improvements are assessed too high, or that agricultural lands are assessed too low. Other state average ratios of significance to this problem are shown below, with the agricultural average ratios.

State Average Ratios

	Land With Improvements	Land Without Improvements
Agricultural land	25.7%	20.2%
Urban land	29.7	21.4
Miscellaneous rural land, non-agricultural	25.6	16.7

From this comparison, it can be seen that there is actually less difference between the ratio of agricultural land having improvements and having no improvements than in the case of other land classes. This would seem to indicate that this is not a problem relating to agricultural improvements only, and that the answer is that land, in general, may be assessed too low in relation to improvements. More detailed study of sales information may shed more light on the problem.

Another aspect of this controversy relates to assessments on farm dwellings. Some proponents of unit assessment admit that farm dwellings occupied by owners should be treated separately, being subject to a full assessment based on re-production cost less depreciation, without regard to income production of the farm unit, while others contend that they should be regarded as an integral part of the unit. The one contention is that the owner-occupied farm dwelling should be treated no differently than the city-dweller's residence, which produces no income. Others contend that, unlike the urban dwelling, a farm dwelling cannot be sold separate from the farm unit, cannot usually be rented, if not occupied by the owner, and is an essential part of the income-producing farm unit.

Regardless of what may or may not be determined about the equity of assessments now in effect, the stated policy of the tax commission should, if properly applied, produce equitable assessments and recognize the unit assessment principle. If in a county, the normal sales experience is that assessments of land and improvements combined are excessive in relation to average market value of similar farm units, the assessments on improvements can be reduced accordingly. If such is not the case, no reduction should be needed. One precaution should be exercised, however, in the unit approach to the equalization of assessed valuations. That is that in comparing the combined assessed valuation of the land and improvements of a farm unit, with sales price, all of the land which is used in connection with the unit should be considered, whether it is owned or leased by the operator.

Findings and Conclusions

1) The assessed valuations on improvements are not equalized within the class, within or among counties, nor with other classes of property.

2) The manual provided by the tax commission for the reproduction-cost appraisal of improvements is obsolete, inadequate, and faulty in many respects.

3) Improvements should be assessed according to the reproduction cost of such improvements, adjusted to reflect loss in value due to age, normal wear and tear, actual physical condition, loss of use, obsolescence, and local or regional economic conditions, to the end that the combined assessed valuation of improvements and the land which is associated with them, taken as a unit, shall not be a greater proportion of the average market value than is that of similar properties similarly situated.

4) For the purpose of judging the assessed valuation of improvements used in the operation of an agricultural unit for comparison with the market value of such unit, all acreage of land which comprises an operating agricurtural unit should be included.

5) For the purpose of such assessment the Colorado tax commission should provide the county assessors with an appraisal manual containing a method of determining the reproduction cost of all classes of improvements.

Such manual should be based upon current costs of construction, should be maintained current by the publication of annual supplements, and should also include indices for converting construction costs of one year to those of another year.

6) Such legislation as is needed to implement the foregoing conclusions should be enacted.

IX

THE ASSESSMENT OF PERSONAL PROPERTY

Personal property, for purposes of assessment, includes all taxable property which is neither land nor improvements thereon, which is affixed to neither land nor improvements. As a class, it is characterized by easy mobility, frequent change of ownership, lack of public record of ownership, great variety in nature, rapid fluctuation of value because of aging, wear and tear, obsolescence, loss and destruction, and the operation of the law of supply and demand in the market. All of these characteristics tend to complicate the problem of assessing this class of property, and of evaluating the results achieved.

Exempt Personal Property.

Many types of personal property have been removed from the taxable class by specific exemption. Much personal property is subject to exemption according to its ownership or use, along with real estate of the same ownership or use. Other broad classes of personal property have been exempted from property taxation because of the unsuitability of that form of taxation, and have been subjected to other forms of taxation instead.

All personal property which is publicly-owned or is owned by banks or county fair associations is exempt by reason of such ownership. All personal property which is used solely and exclusively for religious, non-profit school, or strictly charitable purposes is exempt by reason of such use. Household furnishings and personal effects which are not used for the production of income at any time have been exempted. Intangible personal property was exempted from the property tax with the adoption of the state income tax. Motor vehicles, trailers and semi-trailers, except those in the process of manufacture, or in storage, or in the hands of manufacturers, distributors or dealers, were exempted from property tax with the adoption of the specific ownership tax. Reference is made to the more detailed explanation of exemptions contained in Chapter IV.

Taxable Personal Property.

All other personal property is subject to assessment. The total 1958 assessed valuation of this property in the state was $576,199,643, which was 17.4 per cent of the total assessed valuation of the state. Table XIII shows the 1958 assessed valuation of personal property by classes as reported to the state tax commission. Table XIV shows the relative importance of this general class of property and its major parts.

For the purpose of analyzing assessment policy and practice, there are three major classifications of personal property, of distinctly different characteristics, that can best be considered separately. They are: 1) livestock, 2) merchandise and manufactures, and 3) all other personal property.

Livestock.

Constitutional and Statutory Provisions. Other than the general provision relating to all property that it shall be assessed at its full cash value, there is only one statutory provision, and no constitutional provisions, relating to the manner of determining the assessed valuation of livestock. It is "that neither the term 'merchandise' nor the term 'manufactures' shall be deemed to include livestock and agricultural or livestock products in a raw or unprocessed state, except such agricultural or livestock products as are held by a retailer for sale to the ultimate consumer."[1] This provision merely has the effect of forbidding the assessment of livestock as merchandise on the basis of the average amount of moneys or credits invested during the calendar year, thus eliminating one of the possible methods of valuation determination.

There are several other provisions relating to the administrative procedure to be followed in making assessments, the division of livestock assessments between counties, and the assessment of livestock brought into the state during the year. These, being related to procedural matters, rather than to valuation determination, will be discussed in a later chapter on assessment procedures.

Tax Commission Policy. The policy of the tax commission with reference to the determination of the valuation of all classes of livestock is promulgated in an annual publication known as Circular No. 1. This circular contains "recommendations" for the assessment of most classes of personal property, including livestock.

These recommendations are adopted following consultation by the tax commission with the county assessors as a group, acting through the Colorado Assessors' Association. At the time of the annual conference of this association in January of each year, the county assessors assemble in four separate district meetings. There they discuss assessment policy, such as the minimum valuation which should be used per head for various classifications of livestock during the ensuing year, and arrive at a consensus of opinion in each district. Each district meeting then selects two of its members to represent the district on what is known as the advisory committee of the association.

This advisory committee consists of the president of the association, the eight assessors representing the four districts, one assessor representing the association at large, appointed by the president, and the three tax commissioners. This committee reconciles the differences of opinion among the four districts, and determines what recommendations are to be issued for the guidance of the assessors. These recommendations are then issued in Circular No. 1 under the authority of the tax commission.

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1. C.R.S. 1953, Sec. 137-3-25.

TABLE XIII

1958 ASSESSED VALUATION OF PERSONAL PROPERTY
by Classes, as Reported to the State Tax Commission

Class	Number of Units	Average Valuation per Unit	Total Assessed Valuation
LIVESTOCK			
Cattle			
Registered Herd Bulls	2,176	$202.35	$ 440,440
Range Bulls (Pure Bred)	24,352	102.70	2,500,981
Pure Bred or Registered Cattle (Coming Yearling)	8,585	52.20	448,230
Pure Bred or Registered Cattle (Yearling or Over)	20,450	75.42	1,542,315
Steers (Coming Two Years Old or Older)	14,775	49.90	737,290
Calves (Coming Yearlings)	386,656	25.05	9,686,725
Range and Stock Cattle (Coming Two Years Old or Older)	589,969	38.15	22,508,988
Pure Bred or Registered Dairy Cattle	4,509	80.22	361,720
Grade Dairy Cows	95,563	56.10	5,360,258
Cattle Fed in Transit	379,695	13.05	4,953,639
Total Cattle	1,526,730	$ 31.80	$48,540,586
Sheep			
Bucks and Ewes, Pure Bred & Registered	5,737	$ 15.09	$ 86,599
Bucks and Ewes, Pure Bred not Registered	16,842	14.65	246,800
Stock Sheep (Mixed Bunches)	825,233	4.98	4,110,845
Ewes (Old)	121,340	3.10	375,922
Sheep Fed in Transit	390,223	1.28	500,752
Total Sheep	1,359,375	$ 3.91	$ 5,320,918

TABLE XIII (Continued)

Class	Number of Units	Average Valuation per Unit	Total Assessed Valuation
Horses and Mules			
Pure Bred Stallions and Mares	1,670	$102.33	$ 170,900
Ranch, Work, and Dray Horses	10,112	33.26	336,412
Saddle & Cow Ponies	28,900	35.88	1,036,932
Mules, Burros	868	30.52	26,487
Total Horses & Mules	41,550	$ 37.80	$1,570,731
Miscellaneous Livestock			
Swine*			$ 589,219
Goats	3,919	$ 2.99	11,736
Rabbits	1,445	.70	1,015
Fur-Bearing Animals	14,549	6.12	88,992
Bees (Stands)	36,526	4.02	146,960
All Other Animals	1,683	21.80	36,700
Total Miscellaneous Livestock			$ 874,622
* Number not reported.			
Poultry (Dozens)			
Chickens	85,788 3/4	$ 5.05	$ 433,566
Turkeys	1,767 1/4	29.75	52,567
Ducks, Geese, etc.	21 3/4	19.13	416
Total Poultry	87,577 3/4	$ 5.55	$ 486,549
Total Livestock			$56,793,406
MERCHANDISE AND MANUFACTURES			$252,586,132