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The Assessment of Real Estate

BY

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FOREWORD

THE committee on sources of municipal revenue of the National Municipal League believes Mr. Purdy's article to be of interest and value, not merely to tax officials but also to taxpayers and students of government and finance generally. In it Mr. Purdy, for many years president of the commissioners of taxes and assessments of the city of New York, states briefly and simply the type of organization and the principles of administration which, in his opinion, are best adapted to the task of assessing real estate in American municipalities. The document is not intended to be a complete manual of technical procedure in this field, but nevertheless, in it the technician will find a general guide and a number of references to sources where details may be found. It is rather a non-technical statement of Mr. Purdy's general conclusions arrived at after a long period of experience as a practical tax administrator. The committee hopes that, coming as it does from the pen of the acknowledged authority in this field, it will serve to crystallize public sentiment in favor of better assessment methods, without which our municipalities will scarcely be able to meet the financial problems of the years which lie immediately ahead.

It may seem to some that the technical problems of assessing real estate are only remotely connected with the problems of the sources of revenue. Almost everyone prefers a "new" source of revenue when a period of financial difficulty arrives. The committee, however, feels that in view of the huge development and the wide scope of the present federal taxes, it behooves the municipalities, first of all, to develop to a point of highest efficiency the sources of revenue that are recognized as peculiarly their own, the chief of which is the real estate tax. Improved administration of this tax will result in the elimination of inequalities, the lessening of dissatisfaction, and an increase of revenue greatly in excess of the additional expense involved.

This constitutes the first of a series of supplements dealing with the various aspects of the municipal revenue problem which the committee plans to publish from time to time.

ROBERT M. HAIG,
Chairman, Committee on Sources of Revenue.

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THE ASSESSMENT OF REAL ESTATE

BY LAWSON PURDY

INTRODUCTION

UNDER the constitutions and statutes of all the states, real estate is taxed on its capital value and provisions are made for assessment. In some states the county is the assessing unit and in others, the town or city. In many cases assessors are elected; in others appointed.

There are examples of very excellent real estate assessments where the form of administration is most undesirable; there are examples of wretched assessment where the form of administration is excellent. No city should be discouraged because it cannot at once obtain a good form of administration. If it has the will it can achieve a good assessment in spite of poor administrative forms.

The rule is practically universal that real estate shall be assessed at its market value. This idea is phrased in various ways in different statutes. One of the best phrases, perhaps, was formerly contained in the tax law of New York to the effect that real estate shall be assessed at "the sum for which it would be appraised in payment of a just debt of a solvent debtor." It is commonly provided that real estate shall be assessed at "its full value" or "fair cash value." The judges have sometimes said that all these phrases mean the same thing and in common language signify "market value." Sometimes it may truly be said that certain real estate has no market value in the sense that there are no buyers ready and willing to pay any reasonable sum for it. In such cases it is proper to fall back upon the other phrases of the law such as "full value" and the sum for which the real estate would be appraised in payment for a debt.

The end and aim of real estate assessment is to secure such a valuation of every parcel that the tax imposed upon it shall bear a proper relation in proportion to its value to the tax imposed on every other parcel within the tax district. To achieve these ends an efficient administration is important, the employment of skilled assessors, and the use by the assessors of those methods and tools of their profession which experience has shown of value. The assessment should be made annually and the assessors should be busy every day in the year except for three weeks' vacation.

THE BEST FORM OF ADMINISTRATION

I shall endeavor to describe what is generally regarded as the best form of administration regardless of the fact that in many cities to obtain that form of administration there must be changes in state law and in some cases constitutional changes.

In every city the assessing department should have as its executive head a single person. It is highly desirable that he should be intelligent and experienced, but it is vital that he should be within the control of the voters. Therefore he should be appointed by the executive head of the city. Associated with the executive head of the assessing department should be two or more to compose a board of review. The number of such a board depends upon the size of the city. In the largest cities such a board need not exceed five and should, ordinarily, not exceed three. In a small city the two associates of the executive may be elected officials who hold this office ex-officio because of another office or they may be appointed for this duty exclusively and paid a correspondingly small salary.

It is very important that the board of review should include the executive head for otherwise they may disturb a whole assessment roll and make it chaos. The work of review should be bound up with the orderly direction of assessment.

In small cities the duties of the executive head of the assessing department may be light. He may, therefore, be paid a small salary and allowed to engage in other business. In a large city he should not engage in any other business; the salary should be sufficient to enlist the services of a competent man who will devote his entire time to the service of the city. In a small city the head of the assessing department may also do the actual work of assessing, with perhaps some clerical help. In larger cities, of course, his duties will be supervisory and the department will employ assessors.

Assessors should be appointed after a thorough civil service examination designed to test their ability to appraise real estate. The questions asked in such an examination should involve the actual problems presented to the assessor. The examination should be so difficult that no man without technical knowledge of assessing real estate should be able to pass it. Such an examination should, therefore, exclude a large percentage of the unfit. That is about all that any civil service examination can do. Dissatisfaction with civil service regulations is apt to be due to the expectation that they can automatically select the most fit. That is expecting too much of any human device. The merit system of the civil service is, however, exceedingly important in obtaining suitable assessors. When appointed they should hold office so long as they perform their work properly. They should be removable only for cause. Their position should be such that they should be able to look forward with confidence to a gradually increasing salary which should be sufficient to offer them a satisfactory, permanent career.

The standards of living and wages vary so much throughout the United States that it is impossible to name salaries that would be applicable in all places.

In small cities the city engineer's department may prepare the maps for the assessing department. In a city of large size the assessing department

should have its own surveyor. Whoever serves as surveyor for the assessing department should obtain the place as the result of examination and should be removable only for cause. All clerks and other employees of the department should likewise be appointed as the result of examination and should be removable only for cause.

The number of assessors is quite often too small. The number must vary according to the number of parcels of real estate and also in accordance with the average value of each parcel and the area to be assessed. Parcels of real estate having a very high value are generally more difficult to assess than parcels of lower value, and the district should be small. Where the area of the parcels is large the district assigned to the assessor may be larger in area and the number of parcels smaller. The following table may be helpful in determining how many assessors should be employed. It shows the number of assessors in the city of New York in 1914, the number of parcels assessed by each, the average value per parcel, and the average area of each assessor's district.

Borough	Number of districts	Average number of parcels	Average value per parcel	Average area of each district in square miles
Manhattan	16	5,881	$50,228	1.38
The Bronx	12	5,496	8,850	3.42
Brooklyn	23	9,271	7,336	3.39
Queens	18	7,451	3,310	6.52
Richmond	6	5,671	2,247	9.53
Total	75	7,221	13,683	4.20

TAX MAPS

It is strange but true that a great many cities in the United States do not have maps to show the various parcels of real estate within the city. To make a fair assessment without a map is either impossible or the work of a superlative genius. It is important that the tax maps should be accurate and show the dimensions of every separately assessed parcel of real estate. A good many cities have no such map of their own and use an insurance atlas which may be quite adequate for the purpose. A city ought to have maps of its own. If it has none, it should start the work of producing first-class maps. If it cannot produce those maps for the next assessment, let tentative maps be prepared which are as good as can be made within the time limit. Let a first-class map be started. In the thickly settled part of a city where parcels are small, the scale of the tax map should be 50 feet to the inch. In the rural section the scale may be reduced to 200 feet to the inch or even more.

For country towns very successful tax maps have been made from the

United States topographical survey at a very trifling expense to the town.[1]

Since 1890 there has been a system in New York of recording and indexing instruments affecting land by reference to a land map which divides the city into blocks having permanent boundaries. These blocks are ordinarily about 200 feet by 800 feet in area. They are bounded by streets, waterways, or other boundaries deemed to be permanent. No changes are ever made in the boundaries of these map blocks unless changes are made in the physical boundaries. The block system of indexing conveyances is much superior to the ordinary system of indexing alphabetically for a large area. The block system, creating as it does small areas, greatly facilitates searches.[2]

This plan of making the tax map blocks identical with the blocks on the land map has proved of great value and these sections of the New York charter may assist those in other cities who desire to establish a similar system.

A city may also be divided into sections of convenient size, each of them having an area of two to three square miles. The sections should never change after once being established and should be numbered consecutively from one up. The division into sections facilitates statistical comparison. The blocks should be numbered from one up consecutively for the whole city. The blocks of permanent maps should never change. In suburban sections tentative maps may be made in the first instance which may be replaced later by permanent maps and upon the permanent maps the block numbers should never change.

The blocks should be subdivided into lots in accordance with ownership. If the whole block is owned by one person, the lot may be the same in area as the block. The common practice of dividing land into lots in accordance with a development map and prior to the sale should be avoided. No subdivision on the tax map should be made until there is a change of ownership. In the long run, this is an advantage to owners. It saves maps; it saves labor of assessors and clerks; it simplifies the assessment roll. As lots are sold, the block should be divided in accordance with such sales. Lot No. 1 should be at the lower left hand corner of the block and the numbering may proceed around the block as the hands move around a clock. Care should be taken to fix the numbers of lots as a block is subdivided so that as nearly as may be, when the block is wholly subdivided, the lots shall be in numerical order. If the lots are numbered consecutively

[1] See paper by Edward L. Heydecker in Proceedings of N. Y. State Tax Conference, Jan., 1912. Proceedings may be obtained from N. Y. State Tax Department, Albany, N. Y. See Tax Map Act of 1913, state of New Jersey.

[2] See Chapter 24, Charter of the City of New York. The surveyor of the tax department makes the land map for indexing conveyances in the area of the old city.

Sections 891–a and 891–b of New York charter provide for tax maps. The blocks shown on tax maps are identical with blocks on land maps. A copy of the charter may be purchased from the *Brooklyn Eagle*, Brooklyn, N. Y., for 50 cents.

and thereafter one of the lots is divided, the part of the lot on the side of the lower lot retains the old number and the new lot is designated by the same number with a fraction or with the addition of a letter. When two lots are consolidated, the higher number is dropped. As changes occur in lot divisions, the tax maps are altered by the use of different colored ink and the addition of the year for which the alteration is made. If two lots are consolidated, the dividing line is crossed out by small crosses. A dotted line is drawn in the street in front of the lots in a semi-circle to indicate the consolidation and at the center of that dotted line is inserted the year date. If a new lot is carved out of an old one, the new division line is made with a different colored ink and opposite the line the year date is inserted.

The tentative land maps usually have very much larger divisions than the permanent tax maps to avoid the use of arbitrary lines and the splitting of parcels held in one ownership. A territory of considerable area may be designated as a plat, and when that territory is divided the lots are carved out of it and designated by numbers in the same manner as lots are designated within blocks of the size shown on the permanent tax maps. When a territory becomes settled and the permanent street layout is determined, the permanent tax maps are extended over the territory formerly covered by the tentative tax maps, the largest plat is cut into blocks, and those blocks again into lots. When such a change is made cross indices are prepared, so that the lots shown on the tentative maps may be readily identified with the lots shown on the permanent tax maps.

An assessing department should have two sets of maps: one set which is preserved in the office and another set for the use of assessors to carry with them in the field. A field map may for convenience be bound in volumes half the size of the office maps. In the front of the map volumes should be placed a key map made to a scale of from 300 to 700 feet to the inch or for rural territory a still smaller scale showing all the territory comprised within that map volume. The length of all boundary lines should be shown on the maps in feet and inches and on valuable lots of irregular shape the area should be shown in square feet. On large parcels the area should be shown in lots or acres.

The tax maps should be the basis of the assessment of real estate and it is necessary that if they are used as the basis they shall be accurate. The law should prescribe that the assessment should be made against the land itself and not against the owner. The validity of the assessment of real estate should not be affected by any error in the name of the owner. In the assessment roll lots should be described by section, block, and lot number in accordance with the tax maps, and the law should prescribe that "such numbers shall import into the assessment roll of real estate any necessary identifying description shown by the tax maps."

FIELD BOOK

Assessors will find that the use of a field book which is not the official assessment roll, but is intended solely for office and personal use, will be a great aid in the performance of their duty. If the block system of description is used, the field book will naturally be arranged with blocks in numerical order. If the block system is not in use, the arrangement should still be in similar form so that blocks will succeed each other in an orderly geographical relation and the blocks will then be described in accordance with local custom. The field book may well be arranged with substantially the following columns: in the first column the name of the owner or occupant; in the next and succeeding columns the following information—size of lot, size of house, building factor, stories high, number of houses on lot, house number, lot number, land value, total value, and about five additional columns so that the total value may be carried for a period of about six years. There may be two land value columns to carry the land for the preceding and current year. If entries are made in pencil, obsolete entries in the land value column may be rubbed out so that always the last valuation and the current valuation may be entered. On the remainder of the page the space may be used for information concerning conveyances, mortgages, rentals, and other facts bearing upon the value of the property.

DETERMINATION OF VALUE

The best evidence of the value of real estate is furnished by a number of sales made under ordinary conditions. The law of every state should require that the true consideration for every conveyance should be inserted in the deed. Unfortunately, this is not done at present and the actual facts concerning transfers of real estate have to be obtained from the parties to the transaction. It is essential that assessors should be well acquainted with real estate brokers and obtain not only the actual consideration for a transfer but the circumstances attending it.

As supplementing the evidence furnished by sales, actual rentals afford the best evidence and often the evidence of rentals is superior to the evidence furnished by sales. In using rentals as evidence, it is essential to determine whether or not the building is suited to the site. If the building is new, suited to the site, adequately rented, and properly managed, the total value of the property may be computed by capitalizing the net rent at such rate of return as is customary for such property in that city. When the aggregate value of land and building is known, the reproduction cost of such a new building may be deducted from the total and the balance should be the value of the land. An improved parcel of real estate, whatever the character of the building, is never worth more than the net rent usually obtainable, capitalized at the customary rate, unless the land itself, if it had no building on it, could be sold for a higher price than the capitalized net rent of the parcel with the building on it.

To arrive at the value of a depreciated building when the value of the land is known, the value of the land may be deducted from the capitalized value of the net rent. The remainder will be the sum added to the total value by the presence of the building in its present condition.

Assessors should always bear in mind the fact that particular sales are evidence, but never conclusive evidence. The fact that some particular parcel sold for a certain sum of money is evidence of the value of that parcel and evidence of the value of neighboring parcels. It may be very good evidence or it may be substantially worthless. It is necessary to know the attending circumstances of every sale before the value of the sale as evidence can be determined. If a buyer is accumulating several parcels to obtain a plot of a size adequate to some proposed improvement, he is likely to be obliged to pay a very high price for the last parcel. That sale taken alone is evidence of the great need of the buyer and the ability of the seller to demand a high price. It by no means follows that the adjoining parcel is worth such a sum. It is evidence that what is known as plottage in that particular section adds a good deal of value to small parcels. Again, it may be that the owner of a certain piece of real estate is in great need of money and is forced to sell under unfavorable circumstances at short notice. He may accept a price, because of his necessities, that is much less than the full value of the property.

Assessors are often puzzled by the problems presented by lot developments or subdivisions, as they are sometimes called. A lot developer, when able to market the lots quickly, must ordinarily get about three times his purchase price in order to recover his money, get fair wages for his labor, and some interest on his capital. If the sale is slow, he must get more than this in order to come out even. Sometimes assessors increase the assessed value of land that is merely marked out into lots by a series of stakes over the value of adjoining land not so marked for subdivision. If other conditions are the same, this is a great mistake. The mere marking out of a field adds nothing to its value. It is highly desirable that acreage property should be assessed just as much as land intended for subdivision. When the developer has, at his own expense, laid out streets and graded, paved, and sewered them, the lots are certainly worth more than before, provided there is any demand for the lots; but the addition to their value is generally no more than the cost of these physical improvements. The developer may now advertise his lots for sale and issue a price list. It will generally be true that the market value of the lots does not exceed 50 per cent of that price list. The buyer of a lot could not re-sell it for half the price paid under the ordinary circumstances attending such developments. As the sale proceeds and houses are built, the time comes when the list price and market value approach equality. Assessments should be increased under these circumstances in accordance with the facts.

LAND VALUE MAPS

It will be found in practice that to create land value maps is not only a very great help but almost an absolute essential to the orderly assessment of real estate. Land value maps must not be confused with tax maps. Land value maps do not show separate parcels of real estate, but only the boundaries of blocks. In preparing such a map, the space of the street should if necessary be distorted so that that space shall afford room enough to write figures intended to denote the value of the land. In small cities and country districts it will be found quite possible to make a wall map that will show the whole city or town on one map or sometimes two or three maps. These maps should be open to public inspection at all reasonable times. In larger cities the maps may be reproduced in book form for convenience of distribution.

The land value map is designed to show the value of the land per front foot on every side of every square in the built-up portion of the city and, on acreage tracts, the value per acre. As these front foot values are called unit values, it is obvious that they must always refer to the same thing. It is generally expedient to use a depth of 100 feet as the unit. Most of the rules for valuing short and deep lots are based on the 100 ft. unit. If, however, lots in the city in question are generally 125 ft. or 150 ft. deep, it may be better to use that depth as the standard unit. In any event there must be a standard unit from which there is no departure. This land value unit relates only to lots unaffected by corner influence.[3] It relates only to lots assumed to be lying normally with reference to the grade of the street. Under these circumstances, the unit of value means the same thing everywhere. It is strictly a site value.

Unit values are determined from all the evidence available consisting of sales, rentals, appraisals for mortgages, asking prices, bid prices, and any other evidence the assessor can accumulate. The necessity for fixing a unit tends to impose a check upon the use of the evidence of value. It is obvious that the value of the land on every street has a relation to the value of the land on every other street. When the units are set down on a map it generally appears that some evidence has been misinterpreted and the units have to be corrected in the light afforded by the comparison of values on different streets.

Having determined the value per front foot for a lot of normal size 100 feet deep, all normal lots will have the same value so far as that unit extends. If a lot, however, is below grade, the actual valuation of that lot will be reduced below the sum produced by multiplying the number of its front feet by the unit of value. Ordinarily that reduction would be equal to the cost of filling the lot to cellar grade. The same principle would be applied if the lot were above grade. It is depreciated in value by the cost of reducing it to grade level. Sometimes it may have a mountain of rock

[3] See page 525 for corner lot rules.

upon it and the cost of removing the rock would exceed the value of the lot at grade. In this case the lot will have some small selling value based probably upon the theory that some day someone may take the rock away for nothing because he wants it. On the other hand, it occasionally happens that a deep hole is worth more than the lot at grade because the owners of neighboring hills will pay for the privilege of dumping their hills into the holes. The assessor must use common sense and the knowledge of the existing circumstances and do it every day.

In appraising corners, the real test is the earning power of the land. Where two retail business streets of equal value intersect, the corner lot of normal size, say 25 feet, is usually worth more than twice as much as an inside lot; sometimes more than three times as much as an inside lot. The earning power of the corner is the only safe guide in determining how much the value of the corner exceeds the inside lot. If the appropriate sized plot for development at the corner is as much as 100 feet, the corner influence will extend 100 feet. If on the other hand, a person owning 100 feet would erect four separate buildings and produce the best results it is clear that the corner influence affects the corner lot exclusively.

In most growing cities, while large tracts of land are being cut into small lots in the suburbs, the contrary process goes on near the center; small lots are being combined to provide appropriate sites for large buildings. This latter condition gives rise to an increment of value known as plottage. Four lots, separately, may be worth $40,000. Those four lots adjoining each other in one ownership may be worth $50,000. Ordinarily, plottage ranges from about 5 per cent to 25 per cent. Whether there is any plottage value and how much it is, must be determined by the evidence under the circumstances of time and place.

There are numerous rules for determining the value of lots of greater or less depth than the standard depth. These rules are so nearly alike that the results are nearly the same unless the value is very high indeed. The Hoffman-Neill Rule, in use in New York, gives a value of 67 per cent to the first 50 feet of a lot 100 feet deep. (See page 525.) Other rules give a little over 70 per cent for the first 50 feet. Very useful tables for determining the value of short lots and deep lots are published in a pamphlet printed by the Ohio state board of commerce and written by Mr. A. C. Pleydell, secretary of the New York tax reform association. A convenient rule for determining the value of lots more than 100 feet deep is to add 9 per cent for the first 25 feet, 8 per cent for the next 25 feet, 7 per cent for the third, and 6 per cent for the fourth.

APPRAISAL OF BUILDINGS AND OTHER IMPROVEMENTS

The assessors should utilize to the full the help of engineers, architects, and builders, but they must do that with a complete realization of the fact that their problem is a different problem from that of builders. If they do not fully realize this, they will be misled into valuing buildings on

the basis of the cost of reconstruction regardless of whether the buildings are suited to the site or not. The full value of any building is the sum which the presence of the building adds to the value of the land. A building may be erected on quicksand. Its cost may be doubled. It is not worth one dollar more than if it had been built on good ground and cost half so much money. Occasionally one finds a new building that is so badly planned that the cheapest course to pursue is to tear it down and begin over again. Such a building is worth its junk value and no more. In every growing city there are handsome, costly, single-family residences that cumber the ground because no longer suited to the site. Let the assessor ask himself for what will this property sell; for what purpose will it be sold; if sold for the price he deems it to be worth, will the building be retained or will it be torn down.

In the discussion of determination of value a principle was laid down which it may be worth while to restate. When a building adds anything to the value of the land and is rented, the fair rental capitalized will give the total value of the property; if the value of the land is known, deduct the value of the land and the balance will be the value of the building.

It may be assumed that new buildings of the ordinary types are worth the cost of reproduction. It will be found usually that the number of types of building is not large. The assistance of builders and architects will be valuable in determining the cost of reproduction of these buildings. It is well to classify them carefully, and have photographs made of various types of buildings of which the exact cost is known. They will be valuable for reference. Architects usually compute the value or the cost of buildings by using the cubic foot as the unit. This practice should be followed in the case of exceptional buildings, but for ordinary types assessors will find it more convenient to use the square foot of floor surface as the unit. It is not always practicable to ascertain the height of buildings, while the area covered by the building must be ascertained and it is easy to count the number of floors and determine the square feet of floor surface. Generally, it will be found most convenient to disregard both interior and outer courts and take the gross area over all. Having ascertained the cost of several buildings of such a type, the cost can be reduced to the cost per square foot of floor surface. It is then a simple process to find the reproduction value of other buildings of like kind.

The square foot value of a building is termed the "factor of value." It is desirable to have a column in the field book showing the factor of value of each building. This makes it easy to compare the assessed value of one building with that of another when the size of the two buildings is different. Occasionally, a building is encountered which has higher ceilings than another. In this case, an appropriate allowance must be made by increasing the factor, provided the increased height of ceiling does, in fact, give greater earning power to the building having the higher ceilings. If it has no greater earning power by reason of its extra cost, it is not worth any more than the building that cost less.

To illustrate the method of using the factor, we may consider a building planned for offices, ten stories high, covering a site 100 feet by 100 feet; each floor would have 10,000 square feet; ten stories would give 100,000 square feet. The cost of such a building might be $6 per square foot in normal times; that would give a reproduction value of $600,000. A wooden cottage of the usual two story and attic variety would be regarded as two and one-half stories. If it were 25 feet by 30 feet in area on the ground, it would have 750 square feet per floor; two and one-half stories would be 1,875 feet and such a building in normal times of simple style might be erected for $2 a foot or a little less. At $2, the cost of the building would be $3,750.

There are many cities now using this system of factors of value. Among them are New York, Newark, Buffalo, Cambridge. Inquiry of these cities would probably bring some of the factors used in those cities for different types of buildings. This problem, however, is essentially a local problem and the particular factors which are appropriate in any city should be worked out for that city with the help of builders, architects, and engineers.

The same principles which have been applied to ordinary buildings apply to improvements of various unusual kinds. Unit costs must be determined and factors of value used. Where local assessors are required to assess the property of public service corporations, the courts ordinarily permit an assessment equal to cost of reproduction less depreciation. The question of selling value or market value must of necessity be eliminated if we must value a gas tank which has no value apart from the system of which it forms a necessary part. The same is true of an electric light power station or the rails and wires of a trolley line.

In nearly every city there are some buildings that are useful and in use but which because of very special character have little or no market value. In such cases the courts of New York have upheld an assessment based on cost of reproduction less depreciation.

CARD INDEX

To supplement the field book a card index will be found of inestimable value. It need not be constructed all at once. It can be built up from time to time until there is a separate card for every separately assessed parcel. Every lot of irregular shape or unusual depth or located on a corner demands a separate calculation of land value. When that calculation is made it should be preserved. The card should show the land value unit, a diagram of such a lot, and the actual calculation of the assessed value of the parcel. The card should exhibit simply the classification of the building, its ground area, the total square feet of floor area, the factor of value, and the total assessment. Where practicable, the card should show the date of construction and original cost. The card should further show all the sales and mortgages affecting the particular parcel.

As such a record as this grows, its value to the assessors cannot be overestimated.

RELATION OF ASSESSORS TO THE PUBLIC

If assessors are intelligent and industrious they have nothing to fear and everything to gain by the utmost publicity as to both methods and details. Owners of real property are apt to be timid and are easily irritated. They are prone to assume that assessors merely guess at values and are guilty of intentional favoritism. The only way to correct these misapprehensions, if they are untrue, is by publicity. It is desirable to get local papers to print descriptions of the methods of assessment employed and, whenever possible, to reproduce the land value maps. Great good may be accomplished by addresses by the assessors to taxpayers' associations and chambers of commerce. It is easy to get opportunities for such addresses especially if the assessors will get right down to the details of their work. Glittering generalities count for little; but if assessors will describe precisely the methods employed, with examples of how they are employed, and suggestions to the public for assistance, the public will meet them more than half way.

Every taxpayer who comes to the assessor's office to make inquiry should be given the information he seeks, and the opportunity should be utilized so far as practicable to explain the system.

The following plan has been tried with much success: When the taxpayer comes to complain, as many will come, he will meet the executive officer. Let that officer say to him, "Describe your property and I will make an estimate of its value before you tell me what the assessment is." The owner should be shown the land value map, a calculation should be made of the value of the land based on the unit of land value. The owner should describe his building and the officer should compute the value of that building based on the factor of value which would be applied to such a building at that location. If the officer strikes the right value for the assessment he has made a great point. The owner will be convinced, as no other experiment will convince him that there is a system which plays fair whether the results are satisfactory to him or not. He will be sure that he is not the victim of favoritism. If, on the other hand, the executive officer does not estimate the assessment at the same sum as the assessor, perhaps the assessor may be wrong and the foundation may be laid for a correction of the assessed value.

APPENDIX

ASSESSMENT OF SHORT OR DEEP LOTS

Hoffman-Neill Rule:

There are several rules or processes in use by property owners, real estate dealers and assessors to assist in the determination of values for different parts of lots. The oldest rule in present use was promulgated by

Judge Murray Hoffman some forty or fifty years ago, and is generally known as the "Hoffman Rule." Originally it appears to have been a simple deduction or declaration to the effect that the front half of a lot is worth two-thirds of the value of the full lot. The most elaborate tables based on this rule were published in the *New York Evening Mail* by its Real Estate Editor, Mr. Henry Harmon Neill, and are careful calculations of proportions resulting from the application of a rule that, taking 100 feet as a basis or unit of depth, the value for the first 50 feet of this depth is $66\frac{2}{3}$ per cent of the whole. The calculation has been carried out to show the proportion of value for each foot in depth from 1 foot to 100 feet.

HOFFMAN-NEILL RULE

Feet	P. C.	Feet	P. C.	Feet	P. C.	Feet	P. C.	Feet	P. C.
1	.0676	21	.4012	41	.5934	61	.7492	81	.8837
2	.1014	22	.4123	42	.6018	62	.7563	82	.8901
3	.1286	23	.4232	43	.6102	63	.7654	83	.8964
4	.1520	24	.4339	44	.6185	64	.7704	84	.9027
5	.1732	25	.4444	45	.6267	65	.7774	85	.9090
6	.1929	26	.4548	46	.6348	66	.7843	86	.9152
7	.2112	27	.4650	47	.6429	67	.7912	87	.9216
8	.2282	28	.4751	48	.6509	68	.7981	88	.9278
9	.2443	29	.4850	49	.6588	69	.8049	89	.9340
10	.2598	30	.4947	50	.6667	70	.8117	90	.9401
11	.2748	31	.5042	51	.6745	71	.8185	91	.9462
12	.2893	32	.5136	52	.6822	72	.8251	92	.9523
13	.3033	33	.5229	53	.6899	73	.8317	93	.9583
14	.3168	34	.5321	54	.6975	74	.8383	94	.9643
15	.3298	35	.5412	55	.7051	75	.8449	95	.9703
16	.3424	36	.5501	56	.7126	76	.8514	96	.9763
17	.3547	37	.5589	57	.7201	77	.8579	97	.9823
18	.3667	38	.5676	58	.7275	78	.8644	98	.9882
19	.3784	39	.5763	59	.7348	79	.8709	99	.9941
20	.3899	40	.5849	60	.7420	80	.8773	100	1.0000

Lindsay-Bernard Rule for Inside Lots:

Lot 150 feet deep equals $100.

Depth from Front	Per Cent of Value	Depth from Front	Per Cent of Value
5	9.	90	84.2
10	15.	95	86.2
15	21.	100	88.
20	27.	105	89.6
25	33.	110	91.1
30	38.5	115	92.5
35	44.	120	93.8
40	49.	125	95.
45	54.	130	96.1
50	58.5	135	97.2
55	63.	140	98.2
60	67.	145	99.2
65	70.6	150	100.
70	73.9		
75	76.9	175	103.
80	79.6	200	105.
85	82.		

It will be observed that the Lindsay-Bernard rule for short lots is nearly the same as the Hoffman-Neill Rule and the latter may be used to apply the Lindsay-Bernard principle to the assessment of corner lots.

ASSESSMENT OF CORNER LOTS

We do not believe that any rule for the appraisal of corner lots has ever been devised which has universal application. While the Hoffman-Neill Rule is of very general value for the determination of the value of short lots all appraisers are well aware that it can generally be applied only to plots of land which are of usable shape and size. The same principle applies to any rule for the determination of the value of corner lots. Moreover, while a corner 100 feet square in one ownership may be increased in value as to all of its area by reason of its corner position it is generally true that the corner influence does not extend beyond a permanent structure erected on the corner even though that structure be only 25 feet wide.

While no rule should bind the judgment of an intelligent assessor the study of rules may be of great aid to judgment. For the purpose of consideration and discussion we print the more important part of the rules formulated by Mr. W. A. Somers for the determination of the value of corner lots, also the simple rule presented by Mr. Alfred D. Bernard, Special Assessor to the Appeal Tax Court of Baltimore, as set forth in his book "Some Principles and Problems of Real Estate Valuation."

The Somers Rule:

For the determination of the increment of value attaching to a plot of land 100 feet by 100 feet on a corner over what it would be worth if it were an inside plot, Mr. Somers has constructed a curve. When this curve is laid down upon a sheet ruled in squares representing one foot every variation of value may be determined with accuracy. As a practical matter ten variations of the rule will ordinarily suffice. The principle upon which Mr. Somers's curve is based is the fact that a corner is more valuable as compared with an inside lot when streets of equal value intersect than when a street is intersected by one of less value.

Corner lots 100 by 100 are increased above the value of inside lots. The greatest increase is when two streets of equal value intersect each other and the smallest increase is that due to a blind alley which amounts only to an easement of light and air. The following table shows the percentage of increase enjoyed by a corner lot determined by the relative value of the intersecting street to the best street when the best street has a value of $1,000 a foot. The corner 100 by 100 is increased as follows:

Side Street Value	Per Cent	Side Street Value	Per Cent
0	6.	$600	25.2
$100	8.3	700	30.2
200	11.1	800	36.2
300	14.1	900	43.2
400	17.3	1,000	51.
500	21.		

When the aggregate increase of a corner lot 100 by 100 has been determined from the previous table, the value of a lot of any width 100 feet deep fronting on the best street may be ascertained from the curve of value. The following table shows the percentage of the total corner increment for a lot 100 by 100 which attaches to various parts of the lot. Thus 5 by 100 on the corner is increased by 23.5 per cent of the total increment for the whole lot 100 by 100 as shown by preceding table:

Feet	Per Cent	Feet	Per Cent
5	23.5	55	92.
10	38.5	60	94.
15	50.4	65	95.5
20	59.3	70	97.
25	67.4	75	97.9
30	73.5	80	98.75
35	78.8	85	99.2
40	83.	90	99.5
45	86.5	95	99.8
50	89.4	100	100.

The Lindsay-Bernard Rule for Corner Lots:

Mr. Bernard explains the valuation of corners as follows:

"In our work in Baltimore City, we studied the situation carefully and tried out various theories on hundreds of known sales, and we found that as long as we tried to fix a rule to measure the extent of corner influence, we could not reach a satisfactory rule of value which could be proven; but if we fixed the extent of corner influence by the normal utility of the corner and recognized the property lines of individual owners, we could reach a *minimum* value for a corner lot which we could prove almost invariably.

"We found that unless the corner lot was a small one that ordinarily corner influence did not extend beyond the actual corner holding, and if the lot itself was available for the best utility of the zone, we were sure of it; and if any additional value attached to the adjoining inside lot, it was potential and speculative, the exception being where we were appraising lots on low valued side streets working up to high valued main streets.

"Therefore, to get the value of a corner lot in the business district of a given city, we proposed this rule, which, because of the co-operation of my co-worker in the department of assessment and review of Baltimore, we have called the Lindsay-Bernard corner lot rule for business districts.

"First, reduce the lot to its logical front, which will be on the highest valued street, whether the lot actually faces it or sides on it.

"Second, find its value as an inside lot on the main street.

"Third, find its value as an inside lot on the side street, producing it on the Lindsay-Bernard rule; the sum will be the minimum value for the corner.

"Fourth, add all the minor factors of value, which suggest themselves to an intelligent appraiser.

"This is as far as we can go, and we believe we have gone the limit."