

AN EQUITABLE STANDARD FOR LAND VALUATION

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SUBJECT: "*The Somers System—Can a Private Appraisal Company Appropriately Be Employed to Assist Public Assessors?*"

I APPEAR at this conference of the National Tax Association to advocate the adoption of an equitable standard for the valuation of real property, for tax assessment and all other purposes; and to explain my faith in the Somers Unit System of Realty Valuation as an equitable and universal standard for such appraisal.

Incidentally, I hope to prove to every open mind among the members of this association that no imputation of impropriety may justly be laid at the door of the public assessor who shall install the Somers System, even though he shall find it expedient in that connection to employ therefor the services of the trained accountants and appraisers of "a private appraisal company." I know that there is evidence beyond power of contradiction that public assessors who have employed the Somers System have actually equalized the assessments within their districts; and that while the system does not in any way attempt to dictate taxation policies, it furnishes an intelligent and accurate basis for any policy which the assessor may determine to follow or adopt.

I do not claim for myself any special wisdom in the economics of that most confusing and unscientific phase of the administration of public affairs which is generally described under the name of "Taxation." I speak rather out of a practical and rather wide experience of sixteen years as professional appraiser. During the past four years of that experience I have given a great deal of attention to the oper-

ation of the Somers System for tax assessment purposes, and by arrangement with William A. Somers, the inventor of the System, the "private appraisal company," of which I am the head, has assisted public assessors in the cities of Columbus, Ohio; Springfield, Joliet and East St. Louis, Ill.; Denver, Col.; Houston, Beaumont, Galveston and Waco, Texas; Augusta, Ga.; Des Moines, Iowa; Lancaster, Wis.; Weston, Ontario; and Arden, Del. Mr. Somers personally assisted in the Cleveland assessment. We have made investigations of assessments, mostly non-official, in many places, among them Philadelphia, Washington, Chicago, Boston, Baltimore, Buffalo, Detroit and other cities. At the present moment the System is under installation in San Antonio and Corpus Christi, Texas; Lake Charles, La.; and Fairhope, Ala.

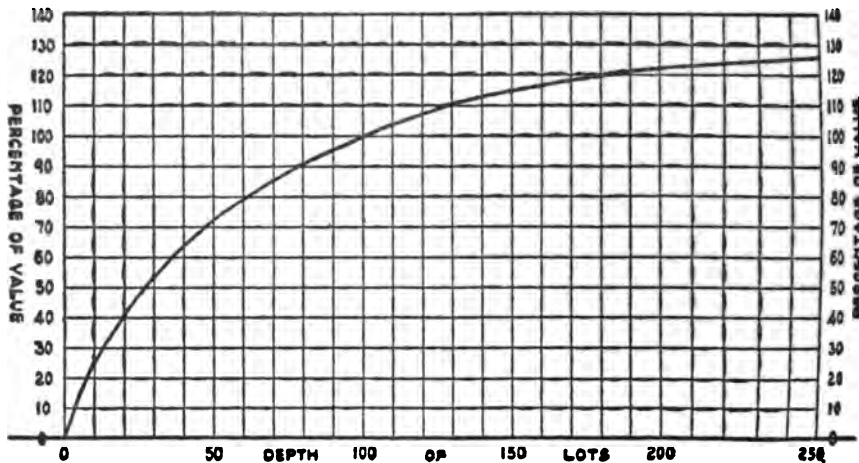
SYSTEM FURNISHES RELIEF FOR UNSPEAKABLE INEQUITIES

When Mr. Somers arrived in my home city of Cleveland, four years ago, to assist the newly-elected Board of Real Property Assessors in the revision of real estate assessments for the first time in ten years, I at once appreciated the merit in his plan. To my mind it was valuable primarily because it promised relief for a situation of unspeakable inequity; and also for the further personal reason that it seemed to open up a new and honorable field for the extension of the appraisal business.

I had never heard of the Somers System until that time. I found, upon investigation, that Mr. Somers had invented it a number of years before in St. Paul; had assisted in a Cleveland investigation of assessments, described popularly as "Peter Witt's Tax School"; and he had been personally employed in the assessing departments of the cities of Chicago and New York. I found that there had been a widespread interest in the investigations of Mr. Somers, but little real appreciation of the value of the application of his theories for actual assessment work. The Chicago Board of Assessors had adopted the Somers plan of valuing units upon the central business blocks, and had worked out a system for the quick appraisal of corners, which system the assessors claimed they were using in the central business section. The Chicago as-

sessors had also adopted a depth percentage for the measurement of inside lots, this depth percentage being at variance with all other curves of value, in giving greater value to the rear portion of the unit foot.

In New York City Mr. Somers had, as an employe of the Tax Assessment Department, prepared for publication a book of "Land Value Maps," showing street frontage values, which values had been deduced from the actual assessments of inside lots, made in more than sixty districts by district as-



Somers Curve of Value or Depth Percentage

sessors, each assessor using his individual judgment of the values of all lots in his district, including those at and near corners. The New York Department did not then, and my understanding is that it does not now, approve the application of mathematics in measuring the values of lots having more than one influence of accessibility. It has what is known as the Hoffman-Neill rule for the measurement of depths of inside lots, but denies the efficacy of corner valuation on any basis except the expression of judgment to show the enhancement to individual lots.

SOMERS SYSTEM PROVES ITS PRACTICABILITY

For more than fifteen years Mr. Somers had been regarded as a student of land valuation of great intelligence, who could ask real estate men and tax assessors some leading questions that they found it difficult to answer. But his system so far as it was understood by the public and by taxation officials was regarded for various reasons as impracticable for actual valuation purposes. Mayor Tom L. Johnson, of Cleveland, seems to have been the only man in a place of authority in public life who had both favorable opinion and the courage to act upon such opinion. He had been fighting an archaic assessment system in Cleveland for years, and before his term of office expired after his defeat for re-election, he urged the newly-elected assessors to employ Mr. Somers as chief clerk. Thus the city of Cleveland was the first large city to adopt the use of the Somers System for assessment purposes after the development of the mathematical formulæ which Mr. Somers had by that time completed. Mr. Somers demonstrated, under conditions of stress incidental to the reassessment of the entire city within less than seven months, the entire practicability of his methods.

All work by way of assistance of public assessors since that time has been done by the Manufacturers' Appraisal Company, under an arrangement with Mr. Somers, which received the friendly approval of Mr. Johnson.

MERIT SHOULD DETERMINE QUESTION OF PROPRIETY

Whatever success has met my efforts in establishing a commercial appraisal business has been due to ability to furnish meritorious services to those who have required such services. If anyone had suggested any other standard upon which to base the hope for success in the direction of assisting assessors to equalize tax valuations, I should have been greatly surprised. It seemed, and still seems, inconceivable that anyone should require that I should be placed under the necessity or obligation, in a public forum or elsewhere, to defend the propriety of the employment of the services of my company. "Efficiency" is the watchword of the business world,

and it has percolated into many departments of the administration of public affairs. There is no spot in any city where there is greater need for efficiency than the assessor's office. Little, if any, progress has been made since the beginning in assessment methods. I naturally supposed there would be an instant demand for such services as my organization, with the Somers System, could supply. I had spent twelve years in building up an appraisal organization whose valuations had been accepted as the basis for the settlement of fire losses, and for mergers and financial transactions amounting to many millions of dollars. My good faith, it seemed to me, could not be questioned upon my business record.

But the mere announcement of the purpose to extend the usefulness of the Somers System developed a systematic opposition which has followed our efforts in behalf of equalization of assessments into many states and cities; which sought to discredit our work in advance; which has, by untruthful statements and a widespread propaganda, prevented many cities from enjoying equalization of assessments; which has tied up in legal actions over \$50,000 in money which has been fairly earned under Somers System contracts; and which by the encouragement and consolidation of the opposition of the small percentage of public officials and property owners that in any community is really opposed to equity of assessments, has encouraged corrupt and ignorant assessors and frightened well-meaning but timid assessors into maintaining the status quo. And I have never been able to discover any reasons for this opposition that are based upon fair considerations. The work accomplished by the use of the Somers System should stand on its merits, and should be its own strong or weak defense, as the case might be, yet I find myself at this time and place required to defend a question of propriety that should have required no defense.

My answer to the question, "Can a Private Appraisal Company Appropriately be Employed to Assist Public Assessors?" is this: If a private appraisal company, or any company or individual, has the ability to supply valuable services or formulæ to public assessors at reasonable cost, there should be no more limitation placed upon such employment than is

now placed upon the employment of architects to prepare plans for public buildings, engineers to advise public officials upon waterworks, sewer or park problems, or accountants to install uniform accounting and auditing system to prevent waste and fraud in the expenditure of public funds after they have reached the public treasury.

ROBBERY BY PUBLIC AUTHORITY DUE TO LACK OF SYSTEM

All the waste and fraud that is possible through corrupt attacks upon public treasuries in the most careless or the most venal municipality is absurdly insignificant in amount in comparison with the public robbery that is known to exist in nearly every American community, by reason of the lack of equitable standards for the measurement of real property values, in the inequality of collecting the money into the public treasuries. No one will deny that 25 per cent is a conservative estimate of the amount of money unjustly collected in taxes in any unit of government from real estate owners. The total of all taxes annually paid by the real estate owners of the United States cannot be far from \$1,000,000,000, and possibly it is much more than that large sum. But if the total should be only \$500,000,000, the robbery of some owners by proportionate over-assessment, which results to the benefit of others, due to the lack of an equitable appraisal standard, is an inexcusable wrong. Any one who proposes a remedy for this wrong is entitled to be heard and to have his claims given careful examination. The public assessor, I submit, should be given every possible means for making his assessments scientifically equitable, if that is possible. Upon the equity of his work depends the justice of the entire structure upon which our municipal, township, village, county and state governments are administered. It is his duty to appraise all holdings upon a basis that will insure equity and just proportion to every property owner, and when he fails to do this the structure of government is seriously undermined. Why should the assessor not be given every opportunity to use the best possible tools that may be found, to aid him to obtain equity in tax valuations? What honest and consistent objection can be made to the principle that asses-

sors, universally acknowledged to need assistance, should be free to seek assistance wherever they can obtain it?

In my view the presumption is all in favor of the affirmative side of this question. The burden of proof as to the impropriety of the employment of a private appraisal company or any agency that will assist assessors, lies properly upon those who may hold the negative view. The sole consideration should be as to the merit of the services which a private appraisal company may be able to perform. If the operation of the Somers System has, so far as it has been adopted by public assessors, assisted even in a slight measure in the equitable solution of tax assessment problems, its use should be approved as appropriate. Condemnation should only lie upon the employment of such services when the services themselves may be fairly criticised in their methods and results.

"WHAT IS LAND VALUE?" THE FUNDAMENTAL QUESTION

I have read with some degree of care the titles of papers and addresses delivered at the several conferences of this Association. It is interesting to note that the record of your past proceedings fails to disclose adequate discussion of the question, "What is Land Value?" which I submit should underlie any intelligent study of tax assessment problems.

Is this not the essential consideration? Must we not have a clear understanding of what we are to appraise before we can pass judgment on methods of appraisal? It has been axiomatic in my commercial appraisal business that the description of a machine, or a tool, or a building to be appraised, should be technically exact; and that the initial consideration of the appraiser should be to put upon paper a clear description of the thing to be appraised, which will make it possible both to appraise it correctly, and to enable those who may have occasion to use the appraisal to judge as to the accuracy or inaccuracy of the valuation. Is there any reason why this plan should not be followed in the appraisal of land and buildings for tax assessment purposes, and is this not the most important subject to be discussed as a preliminary to any understanding of the subject of taxation of real estate?

TIDES OF PEOPLE UPON LAND MEASURED IN LAND VALUES

In the city of Washington there is a wonderful automatic machine, by which the tides of the seas at any point on the earth may be computed for any day or hour of past or future time. It has been one of the triumphs of natural science that astronomers have been able to compute the various factors of the movements of the earth through space, so that they can be set down and recorded by this mechanical marvel in their relations to tidal movements. In the same manner Mr. Somers has, by his investigations, discovered the laws concerning the use of land by human beings under existing economic conditions, and he has invented a mathematical machine for computing the movement of the tides of humanity in their overflow of the land, so far as that movement relates to the value of land.

Mr. Somers agrees with Henry George that land value is simply community or "people" value—created and measured by the use of land by the people. Mr. George appears to have made no analytical study along the line followed by Mr. Somers as to the effect of the use of land upon its value, but he assumed that it would be possible to equitably appraise all land sites. It is clear to my mind that those who now look to the single tax to correct injustice arising under existing taxation systems, would be grievously disappointed unless the operation of the single tax should be preceded by an appraisal of all land sites by an equitable standard. This is the only way in which it is possible to fairly test any system of taxation, but especially is it true that the single tax could only be fairly initiated by the application of such a standard in the first instance, and the single tax could be justly continued only by the use of such a standard to measure increment as it should grow, and to measure decreasing land values in localities where usefulness of land may fall away.

Mr. Somers supplements the Georgean theory with the assertion that the true measure of "people" value in cities is through the streets, and, therefore, may properly be called "street value." Land value for a given site is the sum total, expressed in price, of all the influences under existing condi-

tions of life, of the people of the community in relation to that site. The street being the index of value, the Somers unit-foot was worked out for ease of use in measuring street value upon given areas. To compute the price, or the value expressed in price, of a quantity of cloth, one performs a simple problem in multiplication, using but the two factors of number of units of quantity or yards by the price per unit. Until the Somers System was invented there existed no unit or standard of quantity capable of general use, upon which to express opinion or judgment of usefulness of city land, comparable to the use of units of quantity for the measurement of the usefulness of other commodities. The acre could be and is used for large bodies of land, but was impracticable for the smaller parcels of land in cities. The "front foot" and the "square foot" are used in most places, but both are too cumbersome for exact use. The "front foot" does not have a depth that is usable. The term "square foot" as well as "front foot" requires explanation of all the circumstances connected with a site before one knows just what it means.

THE SOMERS UNIT-FOOT A UNIT OF QUANTITY

The Somers unit-foot is the yardstick or unit of quantity. The exercise of judgment is always expressed as to the value of the unit-foot, instead of as to the value of a front foot or square foot of a given lot. The unit-foot is one foot of frontage with a depth of 100 feet, representing the value of the usefulness of the block frontage due to a single element of accessibility—one street frontage. Any interior or inside lot may be measured as to its value per front foot, if of greater or less depth than 100 feet, by the Somers depth percentage, which shows the value of each foot of depths receding from the point of street accessibility. A most important point in this depth percentage is that $72\frac{1}{2}$ per cent of the value of the 100 feet of depth in the unit-foot lies in the 50 feet nearest the street; consequently but $27\frac{1}{2}$ per cent of the value is in the rear 50 feet; and for the third 50 feet of depth but 15 per cent of the value of the 100-foot unit is added. This rule differs from other rules accepted in the past for measuring

the value of the depth of inside lots, in the fact that it gives greater value to the part of the unit nearest the street than do other rules. It is based upon Mr. Somers' investigations of many thousands of situations in many cities.

HOW ASSESSORS USE SOMERS SYSTEM

The first act of the assessor in the use of the Somers System is to prepare a map showing block outlines for the central

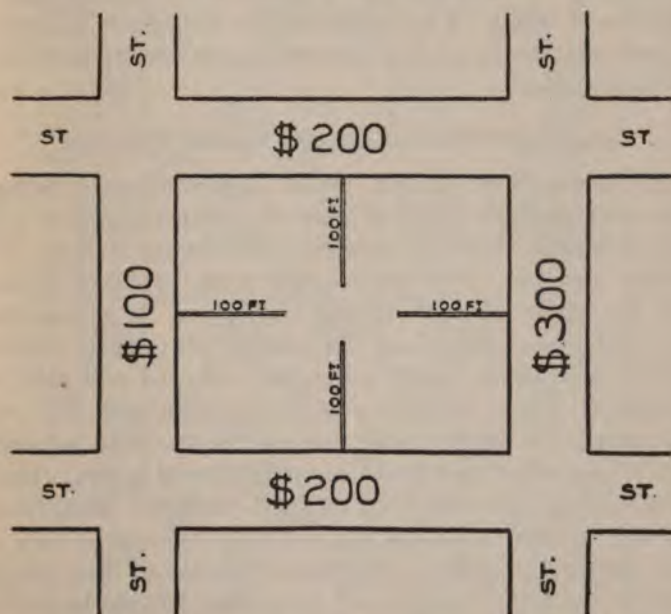


Illustration of Location and Valuation of Somers Unit-Foot.

business district of his city. He tentatively determines the value of the Somers unit-foot upon all block frontages in this district, and uses these tentative unit values as the basis for public discussions in which all citizens are invited to participate; afterwards extending his work through the entire city, and having the benefit of the central districts for constant comparison of judgments. Most assessors are fortunate in securing assistance from citizens' committees, both in the tentative and in the final stages of the decision as to the values

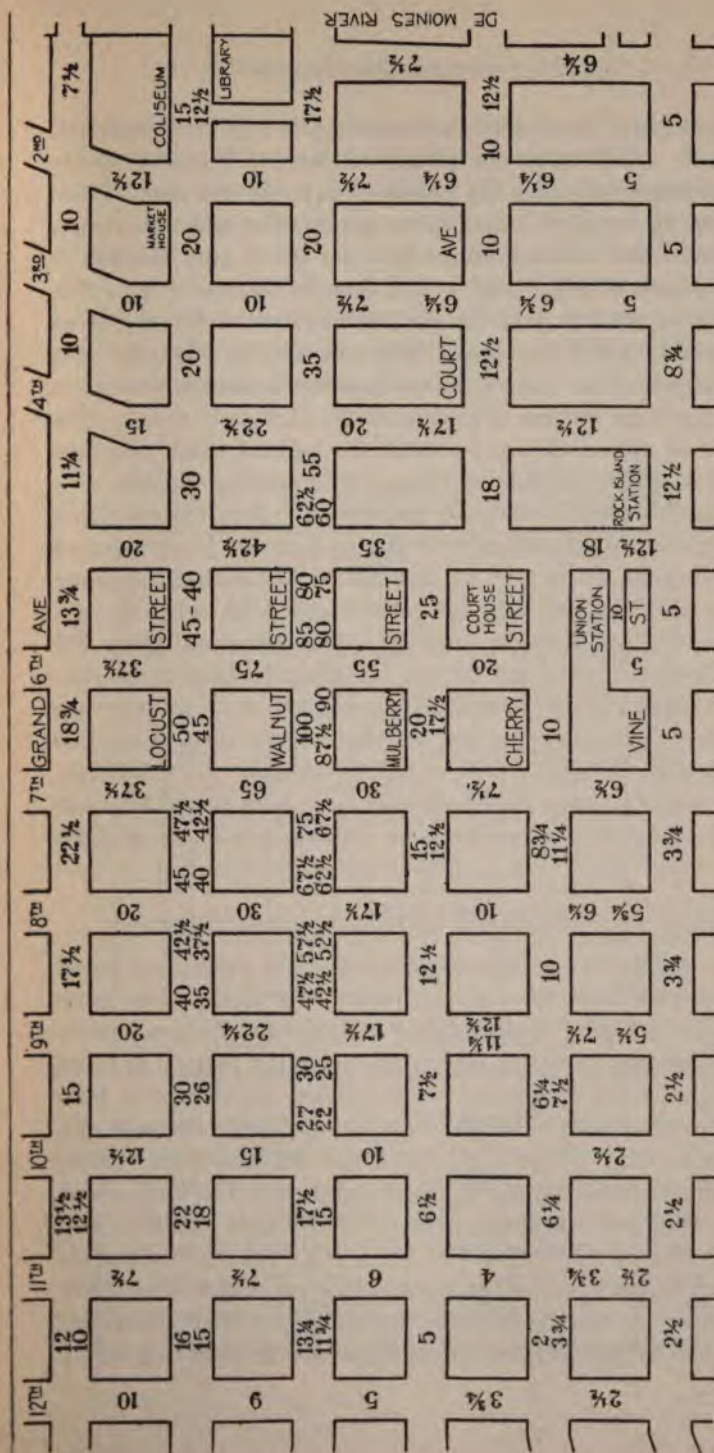
of units. The local newspapers are glad to print the tentative unit values, to report the discussions, and the changes in judgment brought out through the conflict of opinion.

The assessor should not permit the discussion to wander from the one question—What is the value of a Somers unit-foot upon each block frontage? Thus he eliminates the complicated questions, and confines the discussion to the value of one-street accessibility to each block. Opinions, sales and rentals may be submitted as competent but not conclusive evidences of value. A sale price is only considered as having as much weight as any other opinion, and is readily appraised as to its accuracy.

COMMUNITY CONSENSUS OF OPINION OBTAINED

The consensus of opinion which may, under the Somers System methods, be obtained from the community, is a well-nigh infallible guide to relative and actual values. The assessor can gain little information from property owners as to the values of their holdings so long as he attempts to talk only about individual lot values. But when citizens begin to talk about street value they can and will talk intelligently. There are few persons familiar with any city who cannot tell which block frontage is the most valuable. With a map of the best business center spread before a meeting of citizens, the relative values of the different block frontages can be easily determined.

In Des Moines, Iowa, the relative values of the Somers unit-foot upon the frontages of more than 100 blocks in two separated business districts were determined by two committees of citizens, working independently, without publicly expressing the dollar value of a single frontage. The best block frontage was marked 100 per cent, and all the other frontage values were expressed in percentages of the highest block frontage value, some of them as low as 5 per cent. Comparison of the two districts was effected at a conference of the two committees, the east side, or least valuable district, highest-valued block being appraised finally at 17½ per cent of the highest valued block on the west side. When all these relations of street usefulness were finally adjusted for the



RELATIVE VALUES OF STREET USEFULNESS IN DES MOINES BUSINESS CENTER.

The accompanying diagram shows the judgment of a committee of citizens of Des Moines, Iowa, of the relative usefulness of the various blocks in the central business district of that city. Walnut Street, between Sixth and Seventh, marked 100, is regarded as the most valuable block frontage, and all other numerals marked in street spaces represent judgment of percentage values of the 100 per cent frontage. The high-value frontage was appraised at \$2,000 per unit-foot, and the assessment was made and reviewed, practically without change or appeal, by computation of the various lots by the Somers System.

different block frontages, and when, after public criticism, they were accepted by the public as correct, it remained for the assessor to exercise his prerogative to fix the unit values. The best opinion in Des Moines agrees that the value of a unit-foot upon Walnut Street between Sixth and Seventh is not less than \$3,000. But as the Somers System was in this instance applied to only the central business sections, and as all real estate had previously been assessed in that city at a low fraction of its true value, the assessor determined to use a low percentage for the appraisal of the high unit value. His one act of appraisal was to value the highest block frontage unit at \$2,000—two-thirds' value—thus making the east side value \$350, and all others in proportion. And the resulting mathematical distribution of value to each lot in proportion to its size, its shape and its relation to the various elements of accessibility, has been gracefully accepted, even by the largest tax-payer, whose holdings were increased from 100 to 900 per cent over the former assessments, thus increasing his annual tax bill by over \$30,000. Yet he is now answering inquiries concerning the use of the Somers System in Des Moines with favorable letters and telegrams. In the neighboring city of Ottumwa 88 appeals have been heard in court during the past two weeks from assessments made without rule.

CORNER ENHANCEMENT MATHEMATICALLY COMPUTED

Sites at and near corners are generally agreed to be of greater value than sites in the center of a block, away from what is called "corner influence." Under the Somers System this enhancement is computed mathematically, instead of being guessed at. The judgment of accessibility value having been first expressed as of a Somers unit-foot upon all frontages of a block, that part of the block which has but one-street accessibility is computed by the depth percentage. The land which can be thus measured has the lowest frontage value upon a block. Within approximately 100 feet of the corners the enhancement due to street intersection begins, and this enhancement is under the Somers System computed mathematically in relation to the comparative value of the intersecting street,

in combination with the size and shape of the lot, and its location to the various elements of accessibility. The corner influence sometimes does not extend 100 feet from a corner, and sometimes it extends more than 100 feet. Whatever the distance may be, it is measured, if it extends 100 feet or less, by the corner tables, and if it extends farther, by the overlap tables. If there is an alley the value of the alley accessibility to the different lots is proportioned according to the number of feet each lot abuts on the alley.

STREET UNIT \$100 PER FRONT FOOT	10	20	30	40	50	60	70	80	90	100
	9	19	29	39	49	59	69	79	89	99
	8	18	28	38	48	58	68	78	88	98
	7	17	27	37	47	57	67	77	87	97
	6	16	26	36	46	56	66	76	86	96
	5	15	25	35	45	55	65	75	85	95
	4	14	24	34	44	54	64	74	84	94
	3	13	23	33	43	53	63	73	83	93
	2	12	22	32	42	52	62	72	82	92
	1	11	21	31	41	51	61	71	81	91

STREET UNIT \$200 PER FRONT FOOT

Diagram for Use in Computing Lots at and Near Corners

In computing the values of the lots within the corner influence an imaginary 100-foot lot at a corner is diagrammed, and is subdivided into 100 squares, each 10 feet square. Each lot coming within the 100-foot area is drawn on the diagram in its exact location. The Somers corner tables show the value of each 10-foot square, as numbered on the diagram, for every combination of unit values, and when the value of the unit-foot has been determined upon the four block front-

ages, the lots having corner influence can be designated and appraised relatively in somewhat the same manner that the banker computes the interest upon a note from his book of interest tables. Given the factors of street accessibility value upon all frontages of a block, a lot of a certain size and shape, with a certain relation to a given corner, has a certain value. Any change, however slight, in size, shape, relation to the corner, or value of units, will, upon computation, show a difference in value, in a mathematically exact ratio. There are variations of the corner tables to apply to retail, wholesale and residence properties. There are also mechanical devices known as overlap cards and zone cards. The overlap cards are for ready computation of the point at which the receding values of two units of different values, as computed by the percentage tables, meet at the same value. The zone cards are used for easy computation of irregularly shaped lots.

SMALL PERCENTAGE OF TAX-PAYERS REALLY UNFAIR

Every community has not to exceed 2 per cent of taxpayers who will take advantage of their neighbors if given an opportunity in the matter of tax-assessments. The other 98 percent are not only willing, but glad, as well, to pay their proportionate share of taxes if they are assured that everyone will be treated fairly and equitably, and on exactly the same basis. The Somers methods of obtaining community opinion and of complete publicity in the making of assessments at all stages of judgment and computation give the most complete assurance of fairness and equity. The 2 per cent hesitate to display in public an unfair spirit towards the 98 per cent, which they might be willing to display to the assessor only, and those who have in the past obtained special advantages through the ignorance or favoritism of the assessors, are compelled by the force of public opinion and the logic of mathematical computation to bow to the opinion of the majority. Under the Somers System there is realized the ideal fought for by our forefathers of real representation in taxation, and the result is an approximation of exact equity in assessment, and the opportunity to impose a level tax upon level and equal, instead of irregular and unequal assessment values.

SYSTEM MAY BE USED FOR AN ENTIRE STATE

The Somers System is adapted to universal use throughout a state or district having one or more assessors. State Tax Commissions, if given the power to promulgate rules under which all assessors should express their judgments in the same manner, could enforce uniformity of methods of expression of judgment. This does not mean that all assessors will have the same judgment, or that such rules would interfere with the expression of such judgment, but if all assessors should express their judgments by the Somers methods, fortified by community opinion in each locality, and computed by the Somers mathematical tables, the result would be uniform and equitable tax valuations, not only in a given city, but throughout all cities in a state.

For rural assessments the same analytical methods can be applied. Each farm should be diagrammed so as to show the number of acres of each quality of land comprising it. A town meeting with these diagrams, and with comparative and actual knowledge within the territory, will easily and accurately value each kind and quality of land upon each farm, judging separately the various elements of site or location, cultivable qualities, forest or mineral products, and any other value-making elements. One farm will be more valuable per acre than another of equal soil quality, because it has better roads and a shorter haul to market, or school or church; and all such variations will be fairly judged when opportunity is given to analyze, by the consideration of each element separately. City land usually possesses only site value, while rural land has additional elements of value in the variable quality of the soil, and in the productive capacity of orchards, forests and mines. The injustice of rural tax valuations is as marked as in cities. Under the application of the Somers principles the same equity can be established in rural assessments throughout an entire state that has been established by the use of the Somers System for computing the values of sites in cities.

SYSTEMATIC METHODS OF APPRAISING BUILDINGS

While not a part of the Somers System proper, the methods

of uniformly appraising buildings in connection with a Somers System assessment are similar to the land value analysis. The first thing is to find out just what kind of a structure each building is, and the dimensions and descriptions of all buildings are after measurement and inspection transcribed upon cards. Most buildings in a city may be included within five or six classifications as to construction features. All buildings of a given class are appraised at the present cost of new reproduction per square foot of floor space at present market prices for material and labor. This is the highest possible value, and from this value depreciation is deducted for age, for mechanical deterioration, for obsolescence and for lack of utility, upon uniform schedules, which will insure equity to each property owner. Buildings that cannot be classified are especially appraised and depreciated. The new reproductive valuation of buildings comprises the inventory. The art of appraising man-made property lies in the application of depreciation. It is comparatively easy to ascertain new reproductive costs of man-made property, but it is difficult to secure agreement upon elements and amounts of depreciation.

REASONS WHY ASSESSMENTS ARE NOT INEQUITABLE

The Somers System does not at any stage usurp the function of the public assessor, who is charged with responsibility for the assessment and with power to fix taxable values. But it is a splendid aid to him, first in ascertaining values of accessibility to the various blocks through the streets; second, in confirming or modifying those values by the approval of the consensus of community opinion; third, in measuring this judgment so ascertained and confirmed to the lots and parcels as now owned; fourth, in the equitable appraisal of buildings. That the assessor has not in the past done altogether creditable work, is due mainly to the lack of a system or standard of valuation, and the faults in the valuations are traceable to the following causes:

1. There is a lack of common judgment in ascertaining values.
2. There is a lack of common method of applying judgment, no matter how obtained.

3. There is no adequate basis of comparing the value of one lot with that of another; the value of one farm with that of another; the value of one city block with that of another; the value of one township with that of another; the value of one city with that of another; the value of one county with that of another; the value of one part of a state with that of another.

4. No clear idea of the origin of land value, especially in cities, exists in the minds of assessors.

5. No analysis of the factors that enter into the value of city sites is attempted.

6. While there is a general recognition of the law of comparative valuation, there is no method, or, at best, the very crudest methods, of carrying that law into effect; either by assessors, reviewing bodies or state tax commissions.

The Somers System is designed to correct these underlying faults, and so far as taxing officials have used it, it has corrected them. It has had to meet and overcome ignorance and the interest of those who have desired to maintain an inequity in assessments which operate to their benefit. But although this opposition, which might have been expected, has delayed the general acceptance of the Somers principles, and their general application, the growth of public opinion and the intelligent study of the subject by taxation officials causes the use of the Somers System to constantly increase.

SOMERS SYSTEM IS NOT ALTOGETHER "SECRET"

One of the points made by those who have opposed equalization of assessments by the use of the Somers System is the claim that the System is made up of "secret formulæ," that it is "patented," and that the assessor who uses the Somers System is "helpless" in future. In answer to this I will say that one who will study our printed matter will find that the Somers System is so comprehensive as to practically amount to a new science. The so-called "secret formulæ" forms a small part of this science, although a most important part for the exact operation of the science. There are many cities which have profited by the adoption of the Somers methods, and have made great improvement in the direction

of equalization of assessments thereby, without employing our services. Some assessors in such cities freely acknowledge their obligation to our printed matter and our assistance, which has been freely given, and express their sincere regret that local conditions, usually financial, have made it impossible to employ our paid services. Other assessors pursue a different policy, copying all they can copy, but making unimportant technical objections to what they declare to be wrong results of the use of the Somers System. They use all they know how to use, but fail to acknowledge their obligation to the Somers methods. Some of these assessors say the corner tables show results that are greater than true values; others that the corner computations are not high enough. Some of these assessors are sincerely mistaken, and others appear to be insincerely mistaken. But what of it? It is impossible in this world to please everybody, so why try? That the assessor, who want to equalize his tax assessments, can do so by the use of the complete Somers System, including the services of experts, has, I think, been proven beyond the possibility of question, notwithstanding the carping of doubting Thomases. I defy any assessor or person to point out any city of any considerable size where the Somers System has not been used, in whole or part, where the assessments can be shown to be even approximately equitable. And any city of medium size which once uses the Somers System can continue the use of the System in its application to the future annual revaluation of land for an additional annual cost not exceeding the salary of an average clerk.

This, I believe, is a complete answer to the "helpless" claim.

The Somers System is as accessible, except for the corner tables, as air, and as free as a new language. But it requires study to learn it, and teachers to instruct in the most approved use. When the mind of the public has reached the point where the Somers principles are generally accepted, we expect to publish the Somers corner tables. We now have in manuscript a book to be entitled "The Science and Practice of Land Valuation," which we hope to publish soon. But the present publication of the corner tables, the work of many

years of Mr. Somers' life, would be unfair to him. Any taxation official can have the use of these tables for nothing, in connection with the services of our experts. Those services would be worth their cost without the corner tables, and, as a matter of fact, no charge is made for the use of the tables. Future revisions can be made on the same basis. The cumbersome staffs of assessors in such cities as Philadelphia and New York could be greatly reduced in number, with proportionate reduction in cost, and an increase in efficiency that no percentage can illustrate, if the Somers System should be installed for assessments in those cities.

APPRAISAL OF LAND OF RAILROADS

The Somers standards for the appraisal of land are not limited in use to the making of tax assessments, but may be applied for valuations for all purposes. The coming appraisal of the physical value of railroads soon to be undertaken under the direction of the Interstate Commerce Commission, is one of the most important economic events of a century, or, perhaps, of 500 years. Upon the results of that appraisal will depend the policy of the operation of the public highways of the United States for many years. This valuation is believed by many persons to mean the first step in the direction of government ownership of railroads, although Senator La Follette's purpose in urging physical valuation for so long has been stated as intended only to afford an equitable basis for service rates. But whether the appraisal shall be used simply as a basis for determining service rates, or as the basis for the purchase of the railroads by the government, it is of the highest importance that the value of the railroad land should be appraised by an equitable system under which all elements of value may be analyzed. There should be no difficulty in settling the new reproductive value of the man-made property of the railroads, and in deducting fair amounts for depreciation for mechanical deterioration, age, obsolescence and lack of utility, as called for under the new Ohio Public Utilities law. But land value is totally different in its elements. There can be no practical market value for land, because each side is an individual entity, and

cannot be duplicated, although opportunity of usefulness, as indicated by various elements of accessibility to use, may be duplicated. The application of scientific principles for the measurement of judgment of the values of the tremendously valuable sites occupied by the railroads in population centers is the only way in which it will be possible to establish "fair value" for the land of railroads for rate-making or sale purposes. Inaccurate and unscientific land valuation will make this anticipated measure of relief a greater burden, and will put the final settlement of the railroad problem many years into the future. In connection herewith is printed a map¹ showing an appraisal of the value of the land comprising the Broad Street Passenger Terminal of the Pennsylvania Railroad Company in Philadelphia. The figures in the streets are the judgments of our own real estate appraisers of the values of the Somers unit-foot upon each block frontage. This method complies in the fullest possible measure with the declaration of Justice Hughes of the Supreme Court of the United States that the appraisal of land of railroads for rate-making purposes should be "by comparison with the value of contiguous and similar land." The value of the Pennsylvania Railroad land in these ten blocks or parts of blocks is computed at \$12,287,334, but comparison is made by appraisal of the unit-foot for "contiguous and similar land" probably worth in the neighborhood of \$50,000,000. I venture the assertion that this appraisal is criticism-proof except within the narrowest possible limit of variation. The dotted lines in the blocks show the areas of computation—the points where the various influences of accessibility meet. Here is a real standard for the appraisal of land of railroads, so as to show the present value. If at a future time an additional capitalization of the value of this land shall be asked, here is a standard for proof of any such claim, when accompanied with evidence of an actual increase in the value as compared with "contiguous and similar land," as expressed in valuations of the Somers unit-foot, and as computed by the Somers mathematical tables.

¹ This map owing to its size could not be included here.

APPRAISAL OF LAND VALUES FOR OTHER PUBLIC PURPOSES

The State of Ohio gives the new right of excess condemnation to cities in connection with street improvements. At the request of Mayor Newton D. Baker we have recently appraised, not only the value of the land and buildings to be actually required for the proposed extensions of Carnegie Avenue, but have also placed values upon the theoretically created street frontages by the Somers plan, and computed the enhancement to each lot affected. This was a preliminary step on the part of the city of Cleveland in anticipation of the use of the excess condemnation power granted in the new home rule constitutional amendment. By the Somers publicity methods a large number of owners of property in the districts concerned have been practically assured of fair treatment, and have indicated their willingness to accept the appraised prices. It is possible by the Somers computations to make convincing comparisons for such purposes.

The city of New York is now going through an elaborate and costly court proceeding for the appropriation of four valuable blocks for new county buildings. Six leading real estate experts, each paid a fee of probably not less than \$10,000 for his opinion, have appraised the property desired. Mr. Somers has analyzed these appraisals of the lots in one block, showing both amounts and the valuations of the unit-foot necessary to produce the respective appraisals. To these he has added the 1912 tax assessments, and also lot computations by the Somers tables upon the tax assessor's unit values. An examination of the jumble of conflicting opinions shown in this comparison ought to prove conclusively that an equitable standard for the valuation of real estate is a crying need in New York City.

Somers System rules were used recently for the appraisal of all the land owned by the city of Cleveland; the county of Erie (Buffalo, N. Y.); and the Board of Education of Pittsburgh. There were 132 parcels of land in Pittsburgh, and nearly 100 in Cleveland. These appraisals were made to establish book values for accounting purposes.

CHICAGO SOMERS SYSTEM COMMERCIAL SERVICE

The first use of the System for a commercial appraisal service is that under which we have very recently appraised the value of all the lots included in 137 blocks in the central business district of Chicago, in the territory bounded by Lake Michigan on the east, the Chicago River on the north and east, and Twelfth Street on the south. There are about 3,500 lots in this territory, with a total value for the land alone of nearly \$700,000,000. The values of the Somers unit-foot upon the various block frontages are shown in a map which is published herewith. Each block has been drawn so as to show the dimensions of the lots comprised therein, with the values of the unit-foot upon each frontage and the computed value of each lot. Subscribers to this service will have the advantage, during the first yearly period, of a stated number of recomputations or additional computations of lots, upon unit values of their own judgment, either in this or any other district in the city of Chicago.

This is purely an experiment. We do not know just what demand exists in American cities for such a service to real estate brokers, trust companies, property owners and large corporations which lend money upon real estate security. It will undoubtedly take some years to standardize values by mathematical measurement of judgment, instead of attempting to appraise land values by crude attempts to measure usefulness by rule of thumb judgments.

BRIEF SUMMARY OF SOMERS SYSTEM'S USE IN VARIOUS CITIES

"By their fruits ye shall know them." I know that I do not exaggerate when I declare that in every place where the Somers System has been installed, it has accomplished equalization of tax assessments; it has established in the minds of taxpayers a confidence, both in the accuracy and correctness of the equalization and in the actual values. In those cities, the sales prices follow closely the tax valuations; both assessments and sales prices are in large measure standardized; and the application of scientific principles for valuation has brought about a large degree of confidence and certainty concerning real estate values that had not existed before. There

is indisputable evidence of this in the written testimony of public officials, property owners and others familiar with the Somers System installations in various cities, but I will give herewith a brief summary:

CLEVELAND AND COLUMBUS, OHIO

The city of Cleveland, Ohio, is so far the largest city to utilize the Somers System for a complete revision of real estate assessments, as it was the first after the initial use of the System in St. Paul. Realty assessments had previously been revised in Ohio but once in ten years, and the tax valuations were probably the worst to be found anywhere. The board of five assessors in Cleveland had but six months in which to completely revise the valuations of 147,000 lots and buildings. They ignored the old valuations, and undertook the work with Mr. Somers personally in charge of the technical features. While the new methods worked a revolutionary change in the way of ascertaining real estate and building values, the taxpayers welcomed the opportunity to participate for the first time in the public discussion of the values of their properties. Frederic C. Howe, the well-known writer and publicist, was one of the assessors, and in an address in Philadelphia afterwards he said that "there came to Cleveland"—as a result of the participation of the people in the assessment—"a psychological sense of ease, of satisfaction, of square dealing toward their fellows, a spirit of civic satisfaction growing out of the fact that their money was being taken from them by a square deal policy such as they had never had before."

The result of the Cleveland assessment was an increase in realty values from \$142,758,000 to \$550,890,160, and a proportional reduction in the tax rate. More than \$100,000,000 of the increase was found in the high-valued down-town business district, some of the land of which had increased 1,000 per cent over the old assessed values. There was a conscious and open discrimination shown by the Cleveland assessors in favor of the home-owners, which the assessors estimated amounted to nearly, if not quite, \$2,500,000 a year in their favor. This was accomplished by a special "district" de-

preciation upon all residence structures in addition to the depreciation applied for mechanical deterioration and for age. The heaviest district depreciation was applied in the localities in which the poorest homes were located, and the lightest district depreciations were applied where the palaces of the rich were located.

The politician or representative of special interests who would undertake to prevent the use of the Somers System for the revision of the Cleveland real property assessment to be made in 1914, would find little sympathy from any source.

The results in Columbus were similar to those in Cleveland. The Columbus assessors took a longer time to complete their work, and consequently delivered it with fewer clerical errors. The Board of Review changed the values, the insignificant total net amount of \$53,000, out of over \$100,000,000 of land values. The total assessment was increased approximately threefold and the tax-rate decreased in like proportion. The Board of Assessors, attempting to assess the land at full value, used depreciation schedules for buildings, which brought some of their values below what the Board of Review regarded them to be worth. But the increases of values to several thousands of such buildings, added by the Board of Review, made a total net change of less than two per cent, including the changes in land values.

SPRINGFIELD, JOLIET AND EAST ST. LOUIS, ILL.

Three Illinois cities employed the Somers System for the quadrennial revision of real estate assessments in 1911. These cities were Springfield, Joliet and East St. Louis. Somewhat different methods were adopted by the assessors of these cities, but the results were equally satisfactory. In Springfield, Assessor Burke Vanvil was successful in the highest degree in securing assistance from property owners. His public meetings were notable instances of ability on the part of the people to give expression to competent opinions concerning the relative and actual values of street accessibility. In East St. Louis and Joliet, committees of citizens also assisted the assessors in arriving at the values of block unit values. In Springfield there was a distinct effort on the part

of the assessor to discriminate in his method of equalization. He accomplished this by assessing the land at 75 per cent of its computed value and the buildings at 50 per cent. The result was an increase of the land assessments from \$15,032,640 in 1910, to \$25,789,765, and the decrease of improvement assessed values from \$19,601,258 to \$16,768,279. There was a net increase of \$7,864,196 in the assessment.

DENVER, COL.

Following the Illinois work came the employment of the Somers System in Denver. Henry J. Arnold, afterwards elected mayor, used the System only in the central business section, comprising 110 blocks. Some properties were raised and some lowered in value; but the net result of equalizing the business district was the lowering of the assessments upon the homes of the city.

HOUSTON, TEXAS

An interested on-looker in Denver was Tax Commissioner J. J. Pastoriza, of Houston, Texas, who spent his 1911 summer vacation in study of the Somers methods, and partially adopted Somers methods that year in Houston. In 1912 he secured the approval of his fellow city commissioners for the complete adoption of the System, and the result in Houston has been widely advertised as accomplishing the seemingly impossible. Not all of the taxation changes in Houston are due to the Somers System, but the use of the System for equalizing real estate values made it possible for Tax Commissioner Pastoriza to work a revolution upon the economic side of the taxation question without starting a revolution among the taxpayers. Here are some of the things that Mr. Pastoriza claims to have accomplished:

1. Increased the amount of the assessment roll \$33,000,000, notwithstanding the total exemption from assessment for the first time of household goods, stocks, bonds, mortgages, cash and credits; the assessment of land at only 70 per cent of its value; and real estate improvements, merchandise and machinery at 25 per cent.

2. Reduced the tax rate for 1912 from \$1.70 to \$1.50.

3. Added \$2,000,000 in a new "franchise tax" upon public utilities and railroad companies for the use of the public streets.

4. Reduced the actual amount of taxes of nearly 5,000 taxpayers; increased the assessments upon many properties which had previously been assessed below true value; and discovered previously unassessed property the payment of back taxes upon which went far towards reimbursing the city for the cost of installing the Somers System; and, best of all, secured sufficient money from a satisfied constituency to pay the needed cost of conducting the city government.

Of course the Somers System has nothing to do with anything except the administrative side of the taxation question, and it is not in any sense policy-determining. Any assessor in any state or city who really wants to use the System can find authority in the present laws for its adoption, just as any assessor who does not want to use it can find laws that seem to prevent its use. An assessor who wants to obey the strict legal requirements as to equality of assessments will find in any state a set of antiquated rules that cannot possibly be followed without upsetting equality. Every assessor violates the laws at some point, because most assessment laws were made without understanding. The laws call for equality, but do not provide the proper machinery for attaining equality of assessment; and whether the assessor without a standard of valuation tries to create equity notwithstanding this fact, or tries to follow the law, he fails in both instances to bring about equity. With the Somers System to measure according to a universal standard the values of all parcels of land and all buildings thereon, a basis may be established for any policy that may be adopted by the assessor. If he wishes, and if the law allows, he may appraise the land and buildings at some fixed percentage of full value, or he may discriminate between land and buildings, assessing the two classes of property at different percentages of full value.

There are many persons who believe that constitutional and statutory changes are necessary to bring about reforms in taxation. But the fact is, that such reforms are likely to be futile unless as a preliminary to changes in taxation policy

there shall first be established a standard of valuation that will insure equality and equity, by the ascertainment of true, provable and proportional values, which can be revised in future in accordance with the same standards. All the constitutional and statutory requirements in the State of Texas are opposed to the exemptions of personal property which Mr. Pastoriza arbitrarily made. The laws of Texas do not specifically provide for the use of a universal standard of valuation, but they provide inferentially at least for equity in assessments, and equity has proven impossible of achievement in every place in Texas, as well as in other States, except those places where the Somers System has been installed. It has been found that the mere equalizing of real estate assessments will solve the majority of the taxation troubles in any community, and will provide an equitable basis for solving the remainder of such troubles if the assessor wishes to solve them under the law, or if he will undertake to solve them by public consent without specific authority of law.

BEAUMONT, GALVESTON, WACO AND CORPUS CHRISTI, TEXAS

In Beaumont, Texas, which followed Houston in the use of the Somers System, the assessment was increased from \$15,731,433, which was supposed to be 60 per cent of actual value, of \$17,370,595, which was actually at 50 per cent of true value. There were 942 assessments lowered, and 286 taxpayers were found whose properties had previously escaped taxation entirely. That there were a few property owners who had been getting off very easily, is evidenced by the fact that even on the 50 per cent basis there were 63 taxpayers whose assessments were increased in the sum of \$1,154,351. Some of the other results in Beaumont were:

Assessment of buildings heretofore unassessed.....	\$125,120
Assessment of land heretofore unassessed	80,750
Amount of back taxes collected on heretofore unassessed property in excess of	4,000
Assessment made for the first time of Public Service corporations for the use of the streets by application of Somers System..	122,040
Amount added to railroad assessments for use of streets	475,543

In Galveston and Waco similar results were accomplished.

At the present time the System is under installation in San Antonio, and another Texas city—Corpus Christi—has made an appropriation to pay for Somers System services.

AUGUSTA, GEORGIA

In Augusta, Georgia, the total of real estate assessments prior to the Somers System installation, on a supposed 80 per cent basis, amounted to \$20,160,374. The full value, as ascertained by the use of the System, was found to be \$38,967,729. After deducting \$4,555,799 of exempt property, there was an increase over 1912 of \$9,211,463, after raising the supposed 80 per cent valuation to 100 per cent for purposes of comparison. This was nearly 46 per cent increase, and the decision to make the actual assessment at only two-thirds' value resulted in a substantial reduction in the tax-rate. Mayor Barrett, on retiring, declared the Somers System contract to have been one of the most important achievements of his administration.

DES MOINES, IOWA

In Des Moines, Iowa, the System was used only in the two central business districts, comprising about 100 blocks. The assessment on a two-thirds' value basis for land resulted in an increase of \$8,560,575, or 65 per cent, for land—from \$13,108,925 to \$21,669,500; and a decrease of \$145,010, or 1 8/10 per cent, for buildings—from \$7,915,540 to \$7,770,530. The total increase of land and buildings of \$8,415,565 amounted to 40 per cent. The Assessor's report showed the following statistics:

Number of lots assessed	916
Number of buildings assessed	1,329
Number of assessments increased	702
Number of assessments decreased	205
Number of assessments unchanged	9

The radical changes in assessed values were made and passed review substantially unchanged and without court appeals, while the neighboring city of Ottumwa, which increased central business property assessments without using a scien-

tific system, is now in court, defending 88 appeals out of nearly 500 increased assessments.

VARIOUS SMALLER PLACES

In the 1910 Ohio assessment our building appraisers assisted in the valuation of the building structures in Marion, Ohio, but did not assist in the equalization of land sites.

In Lancaster, Wis., a county-seat town of about 3,000 inhabitants, I held two meetings of property owners in the business district, each of less than an hour in length. Within that time comparisons of usefulness were made of the various block frontages on the percentage basis. There had recently been a number of sales, the prices for which were hopelessly conflicting, but the citizens easily and intelligently and conclusively talked about relative frontage values, and agreed upon the points wherein the recent sales were unreliable as guides. One sale, however, of an inside lot for an Odd Fellows' Hall, was accepted as a fair standard, and all lots in the business district were measured on the unit value deduced from that price.

The town of Weston is a suburb of Toronto, Ontario. In two evening meetings of citizens the values of units were determined and computations of lot values were computed therefrom in Cleveland. A building appraiser applied uniform factors of new reproductive and depreciated values to all the buildings in the town.

The single tax colony, known as Arden, Del., has each year, at the annual reassessment period, been the field of animated discussion over the assessments by the radical citizens who live there. One of the Somers System Accountants, who lives in Arden, as a member of the Board of Assessors, applied Somers principles for analyzing the elements which make up values, and the result was acceptance of the results without complaint.

Fairhope, Ala., another single tax colony, hopes to bring about harmony by the use of the Somers System for assessing the rental values of land, and the village authorities have signed a contract for that purpose.

IMMENSE INJUSTICE DUE TO LACK OF STANDARD

I do not know of any place where it is possible to find statistics which show the exact amount of money levied annually for taxes upon real estate. But there is reason to believe that it will now approximate \$1,000,000,000. If this amount is approximately correct, it will show the tremendous importance, in the name of simple justice, of the adoption of an equitable standard for the valuation of the real estate upon which this immense annual tribute is collected from the owners of this one kind of property. Those who know anything at all about the haphazard methods of determining taxable values which prevail everywhere, will, I believe, agree with me that not less than 25 per cent of the total is inequitably distributed. That is, those property owners whose real estate is assessed proportionately higher in value are compelled, by the imperfect administration of the assessment laws, to pay more than their share of taxes, while those whose properties are assessed at proportionately lower values, escape payment of their full shares. The theory that taxes should be levied on the basis of true and proportionate values of all property is violated everywhere because no adequate law of equitable appraisal is recognized, either by the statutes on the subject, or by assessing officials. That moss-grown judicial sophistry which undertakes to define real estate value as the amount that "a willing buyer who is not compelled to buy will pay to a willing seller who is not compelled to sell," has, in the past, given ample leeway for testimony of "experts" under which the sworn value of a given property has varied from 20 to 1500 per cent. The pet theory of some very excellent gentlemen, that it is possible to average sales prices, or to find a fundamental basis for valuation in a sale price, irrespective of the consideration of the fairness of the price itself, is responsible for some of this \$250,000,000 annual public robbery. That dogma of the head of the New York City Department of Taxes and Assessments, that the value of a city lot and its improvement may be ascertained by capitalizing the income, until such time as the value of the land alone equals the former value of the lot and building combined, is

equally unsatisfactory. All of these theories are based on the mistaken idea that a given land site contains in itself elements of value independently of all other sites, or of the influences which are fundamental in affecting the values of land sites. A real estate transaction may as between the buyer and the seller be the expression of opinion of the income it may earn, but that prospective income is based upon what the parties believe the community opinion and judgment to be. The community creates the value, and the members of the community will quickly and intelligently appraise every sale price if given the opportunity to do so, thus affording the assessor a tremendous quantity of value-information he can never obtain from the sale itself. And the same may be said of rental prices, for a rental is a limited sale.

It is possible for a state tax commission to prescribe rules by which all assessors within the state shall express their judgment of values of real estate in a uniform method, and it is possible to take such judgments and compute the results mathematically. It is also possible to apply the Somers System principles to the assessment of rural property. I have here, a typical diagram of a rural township. Each farm should be diagramed to show the size of the farm, the quality of land and the number of acres of each quality of land; then after every farm in the township has been so diagramed a town meeting can easily pass judgment as to the value of each kind of land within the township. A farm with a given quality of soil that is nearer the town is worth more money because of the additional site value—because it is nearer a school, or church, or market or railroad station; and the Somers principle can be applied by analysis to rural valuations everywhere. It is an easy thing. We have never done it—we have had no opportunity to do it—but it looks very easy to do.

There is one other matter I want to call your attention to: the appraisal of the railroads of the United States. It is probably one of the most important things that has happened to us or will happen for a great many years. One controversial element in connection with the valuation of the railroad is the value of the land. Under the recent supreme

court decision in the Minnesota rate cases it has been declared that the value of the land shall be ascertained by comparison with the values of contiguous and similar lands. We have made an appraisal of some railroad land in the city of Philadelphia, and I am hoping that an opportunity will arise under which we can demonstrate that that appraisal is practically criticism-proof, except within a very narrow limit. In Ohio we now have an excess condemnation right. We have recently made an appraisal showing the enhancement to certain lots by a street opening in Cleveland and have secured virtually an acceptance from more than half of the property owners of the property values computed under the Somers System. I thank you for listening so patiently and hope that all of you will read the address in detail. I shall be glad to supply additional copies to anybody who wishes them.