

LAND VALUES RESEARCH GROUP

32 Allison Avenue,
Glen Iris, S.E.
Victoria.

3rd. November, 1966.

Mr. R. J. McKay,
Crown Solicitor,
Box 25, G.P.O.,
SYDNEY N.S.W.

Dear Sir,

Royal Commission of Inquiry into Local Government
Finance and Land Valuation.

On my appearance before the Commission on 20th. June, it was mentioned that copies of our critical comments relative to the Sydney Metro. Water Sewerage and Drainage Board submissions were to be passed to the Board and the Valuer General for investigation and that any further queries would be taken up either at a further appearance or by correspondence.

Since then we have sighted the following relative to these investigations :

- (a) Supplementary submissions from the Board giving the results of a comprehensive survey covering 20 its 44 areas, (though we have not sighted the annexures referred to in it).
- (b) Comments of the Board upon our criticisms upon their original submissions ;
- (c) Copies of the further submissions of the Valuer General containing comments upon the Board's original submissions and the results of its own comprehensive exercise ;
- (d) Comments by the Valuer General upon the Board's supplementary submissions.

The Board's supplementary submissions are free from the criticism of inadequate sampling raised against its original submissions. Its exercise covering 20 of the 44 districts in its area is praiseworthy and can be helpful to sound conclusions provided corrections are made for the basic errors in its poundages pointed out by the Valuer-General and the further error of which its own text shows recognition but for which correction has not been made in its exercise.

The Valuer-General should be commended for his masterly investigation and exercise and we are gratified that this has confirmed the soundness of our own criticisms of the Board's original submissions. We are glad too that the Board agrees that much of our criticism of its original submission was justified.

However, there are two remaining matters raised in our comments on the Board's submissions which have not been dealt with adequately though of such importance that they should be brought to the attention of the Commissioners to help them evaluate the Board's submissions. It is to these that we confine our further comments.

The two outstanding matters referred to are :

- (1) The question of appropriate poundage rates upon the unimproved capital value for use in the Board's exercise and the effects of applying the necessary corrections to the results of that exercise and :
- (2) The failure of the Board to recognise that our criticisms in sections 8(1) - (2) on page 8 of our comments of 10th. June, 1966 were a general criticism

applicable to the whole of its Appendices 33, 33A, 34, 34A, 35, 35A and others , and to parts of their submissions using percentage comparisons. They have treated it only as applicable to the particular case of vacant land ignoring the more general case and its implications on their exercise. Perhaps we could have elaborated the criticism so that it could not be overlooked.

Had the Board appreciated the real significance of this criticism and taken account of it in its later exercise its conclusions might well have been radically changed. In our opinion, the Board itself has been misled by the fallacies inherent in this method of dealing with the percentage increases or decreases in rates under the systems, towards which our criticisms were directed.

We deal with these two matters on the following sheets and will be glad if you will put them before the Commission.

Yours faithfully,

A.R. HUTCHINSON

Hon. Research Director.

1. Extent of the errors in the Board's Unimproved Value poundage rates and the Effects of the Corrections upon its Exercise and Conclusions.

1.1 There are three distinct errors in the unimproved land value poundages used, the extent of which have been disclosed either by the Valuer - General or the Board itself. They all work on the same direction --- to overstate the rate in the £ of U.C.V. required to yield the same overall revenue as the A.A.V. rate. This in turn has the final result that they understate the rate decreases and overstate the rate increases on residential properties in change of the Board's rating system from A.A.V. to U.C.V.

1.2 The nature of these errors, their magnitude and the source of the figures used are set out below so that the overall effect on the exercise can be seen. The extent of the corrections needed to make the Board's exercise of real value and the results obtained by applying these corrections are shown.

The bare summary is given so that the end results can be seen quickly, while further detail and discussion is given on the final sheets in case it is desired to follow it further.

Error No. 1

That by which the A.A.V.'s used by the Board to compute its poundages have been inflated by inclusion of B/A's (Board Adjustments) for new buildings since general re-valuation without corresponding adjustment of the U.C.V.

Drawn to attention by the Valuer-General
whose figure for magnitude of the excess is ----- 8.877%

Error No. 2.

That due to not taking minimum charges into account.

Drawn to attention by the V.G., ourselves and the
Board whose figure for magnitude of the excess is ----0.275%

Error No. 3.

That due to the Board's inclusion of the whole of Sydney City in its 20 area exercise instead of half the city only in computing a poundage for the whole 44 areas subject to its rates,

Drawn to attention (but not corrected) by the Board
itself whose own computation gives the excess in
poundage introduced by this error as -----2.996%

1.3 The Cumulative Total Error

The combination of these three errors above produces an
unimproved value poundage rate in excess of the true
figure by ----- 12.148%

1.4 Correction Needed

The percentage reduction required throughout the Board's
exercise to make the U.C.V. rates comparable with those
for A.A.V. on the same property is ----- 10.834%

Multiplication of the Board's figures by ----- 0.89166
corresponds with this result (This multiplier is
100/ 112.148)

1.5 Effect of Applying the Correction to the results of the Board's exercise
for residential properties in 20 districts

The most important part of the Board's exercise covering 277,972 single unit residential properties is the overall position shown in its Summary on pages 15 & 16 of its supplementary submissions giving the numbers of homes which would pay more or less under change to U.C.V. in various ranges of magnitude of the increases for those who would pay more under that change.

Application of the correction completely reverses the picture shown by its exercise as indicated below comparing its 'uncorrected' and 'corrected' results.

Effect of Change to U.C.V. basis	Board's Summary of Single Unit Residential Property Rate Incidence			
	Result before <u>correction</u>		Result after <u>correction</u>	
	Nos.	(%)	Nos.	(%)
Decreases	125,500	(45.15)	173,659	(62.47)
No change	2,052	(0.74)	1,400	(0.50)
Increases	<u>150,420</u>	<u>(54.11)</u>	<u>102,913</u>	<u>(37.03)</u>
	<u>277,972</u>	<u>(100.00)</u>	<u>277,972</u>	<u>(100.00)</u>

Distribution of the increases
according to their magnitude
under Board's exercise (before
correction)

Effect of
Correction

Increases 0.1 to 12.4%	47,507	Except for 1400 ' no change ' on correction this whole group is converted to the category with <u>decreases</u>
<i>0.1% to 12%</i> % 12.5% to 24.9%	35,343	Range of increase reduced to <u>between 0.1% and 12%.</u>
<i>12.1% to 35%</i> " 25.0 to 49.9%	35,723	Range of increase in this group is now reduced to <u>12.1% to 35%.</u>
<i>35.1% to 58%</i> " 50.0% to 74.9%	14,971	Range of increase in this group is now reduced to <u>35.1% to 58%.</u>
<i>58.1% to 80%</i> " 75.0% to 99.9%	6,731	Range of increase in this group is <u>now reduced to 58.1% to 80%.</u>
<i>80% and over</i> " 100% and over	10,145	Range of increase for this group is <u>now reduced to ' over 80% '.</u>

1.6 The application of the corrections shows the real incidence of change to U.C.V. for the Board's rating would be the opposite to that believed by the Board. As its opposition to the proposal to change has been mainly based on the belief that the majority of single unit homes would pay increased rates by that change the discovery that its own corrected exercise shows that nearly two - thirds of the single unit homes would receive reductions in rates by

that change should cause it to withdraw its opposition to that change. The results above after correction are in harmony with those obtained independently with the Valuer-General's exercise.

(As with the overall summary, the application of the corrections would alter the incidence disclosed in the individual municipal districts by the Board's exercise. It would necessitate radical recasting of these reports in its Annexure G. Most of those stated to benefit in the majority of cases under A.A.V. would now have to be re-written as favoured under U.C.V. Magnitude of the U.C.V. savings would be increased and that of the A.A.V. savings reduced in all cases by the 10.8 percent reduction in the comparable U.C.V. rate figure.

As we have not been supplied with the details of the Board's exercise for these districts we are unable to make the adjustments ourselves. Doubtless the Commission will arrange this if necessary though it will only confirm the incidence to be as the Valuer - General has already established for municipal rating in most of these districts covered by the Board's exercise.

It may therefore not be considered worthwhile to make the double check at this stage).

2. Failure of the Board to deal with our general criticism on their method of making comparisons of percentage increases and decreases in rates as used in its Appendices 33 to 35 and elsewhere.

2.1 It is evident that the Board has not recognised that the more important part of our criticism under section 8 on page 8 of our comments of 10th. June, 1966, was the general criticism in clauses (1) and (2) rather than their special application in the case of vacant land as the Board has taken it.

2.2 To make our general criticism clear we repeat it below :

" Most of these appendices are of limited value because they give the results only in percentages without the basic data used.

These percentages are expressed in a way which does not give a clear impression to the reader on how the properties are affected by one rating system as compared with another. They show rates Increased by "X" % or Down by "Y" % under U.C.V. To convey a true comparison in the mind the percentages should be referred back to whichever system shows least rates and the percentage under the other system shown as a percentage increase on it ".

(Then follows an example of an improved property in the Board's Appendix 34 illustrating the misleading nature of such comparisons).

2.3 Our criticism goes back to elementary arithmetic and the difference between percentage decrease and percentage increase. There is, of course, no limit to ' percentage increase ' which can become infinitely great. There is however a limit to ' percentage decrease ' which can never exceed 100 percent.

It is therefore misleading to compare percentages of increase with percentages of decrease as done by the Board in these and its other appendices. In doing so the reader who wants to compare the incidence of one rate system with another has to perform mental gymnastics on cases where a percentage decrease is shown before he can get a true picture of their relativity of burden.

For example, if in any particular class of Board properties some are shown as bearing increases averaging 100% under U.C.V. while the others are shown as bearing decreases averaging 75%, the first impression is that the burden on the former is greater than the saving on the second.

But to get the true perspective the inquirer must make the further calculation that a reduction under one system really means that the other system involves a percentage increase as compared with U.C.V. of :

$$\left(\frac{AAV - UCV}{UCV} \times 100 \right)$$

$$= \left(\frac{100 - 25}{25} \times 100 \right) = 300 = 300\%$$

In words the A.A.V. rate is 300% in excess of the U.C.V. rate.

It is therefore almost impossible to get a true mental picture of the relativity between the systems by comparing percentage increases with percentage decreases under a system.

But a simple, true and meaningful comparison results if we take as base whichever system charges least in rates and compare the percentage increase which the other system involves in relation to it. In this way we compare increases with increases and the method gives a true comparison of the penalty effect of one system compared with the other.

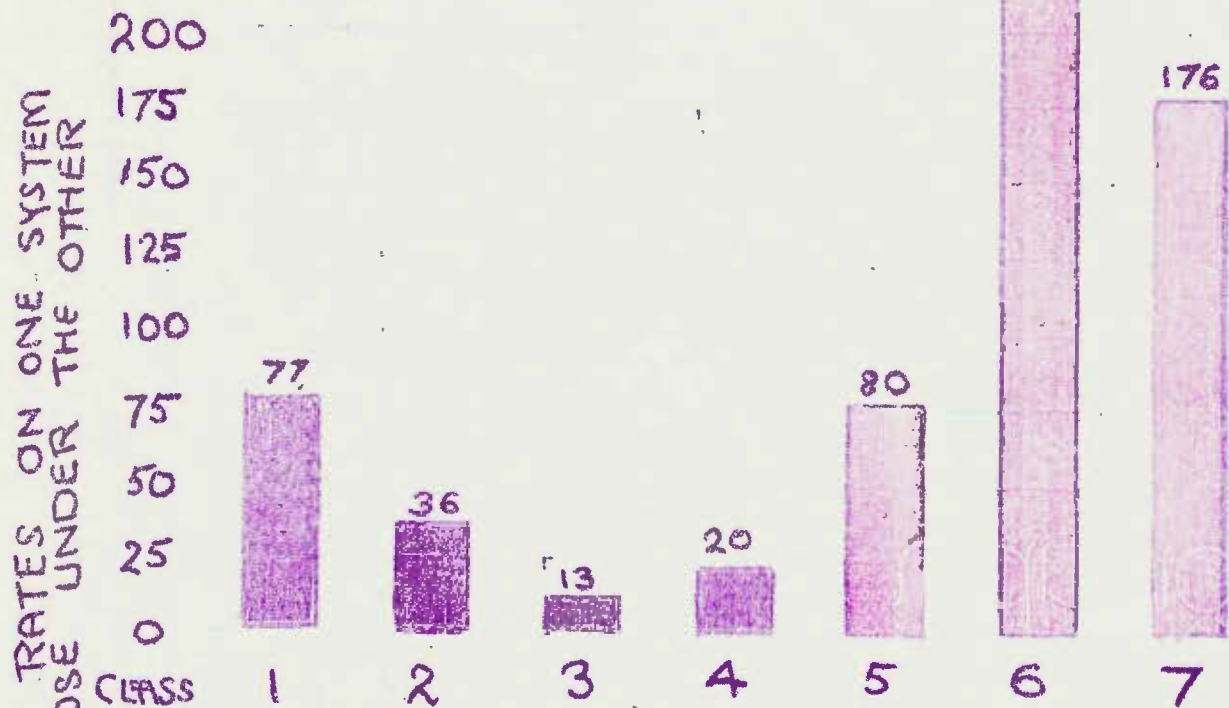
- 2.4 We have drawn up the accompanying graphs on this basis to show the true relative penalty effect upon the seven categories of residential properties from the data in the Valuer - General's Composite table Appendix No. 1. This has been done separately for the Board's samples and the Valuer - General's samples. In drawing the graphs allowance has been made in both cases for the 8% reduction in the U.C.V. poundage rate in accordance with the Valuer-General's correction for the wrongful inclusion of B/A's in computing poundages. But we have not embodied in it the other corrections needed as set out in Part 1. Application of these would further lower the purple ordinates on the graph and raise those shown in red.

These graphs show the overall changes in rate incidence for the classes of residential property as groups after offsetting increases with decreases. It is clear that the residential properties generally would be relieved by change the Board's rating basis to U.C.V.

- 2.5 We have also plotted the graph for the Sydney Water, Sewerage and Drainage Board area to show the penalty effect of the present rating on A.A.V. compared with U.C.V. from the data shown in our original submissions confirmed to be correct as at 1963/64 as shown on the final sheet of these comments.

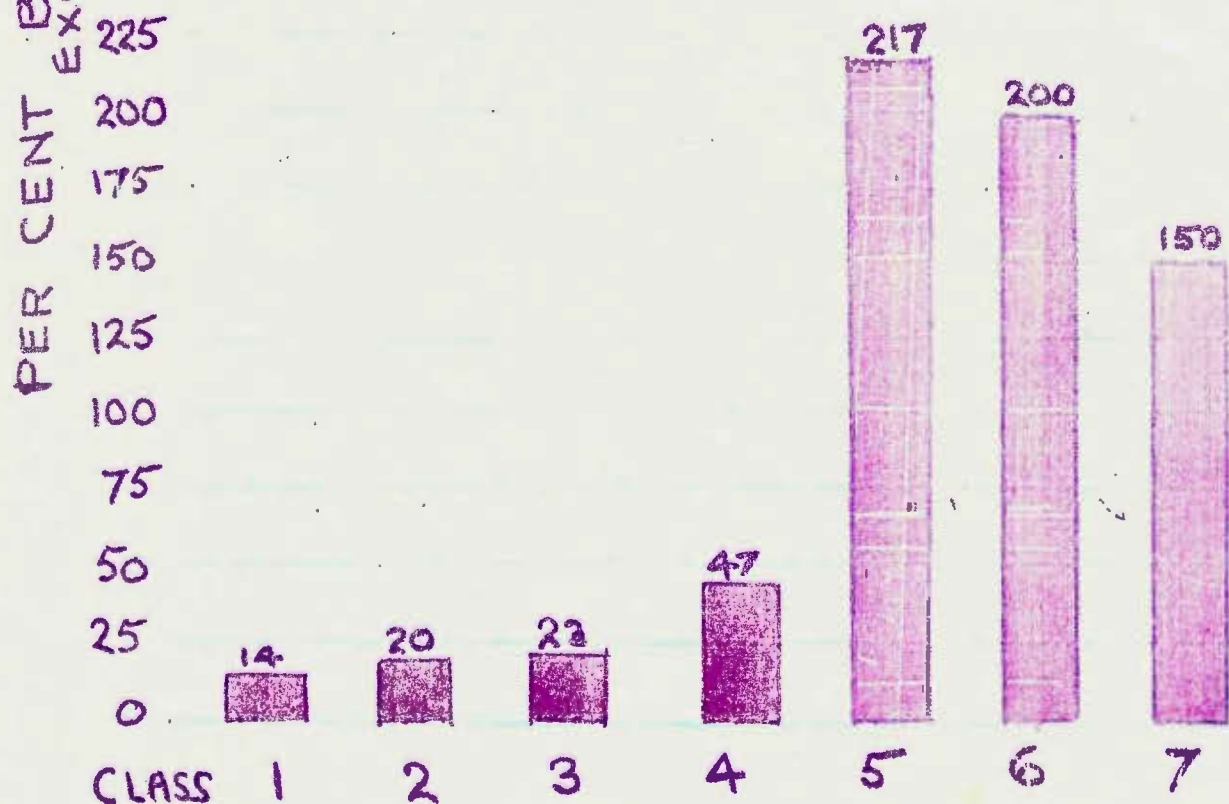
MAGNITUDE OF INCREASE ON
CATEGORIES OF RESIDENTIAL
PROPERTIES UNDER ALTERNATIVE
RATING SYSTEMS

PURPLE -- U.C.V. RATES GREATER BY % SHOWN
 RED --- A.A.V. RATES GREATER " " "



SYDNEY WATER BOARD SAMPLES

(WITH ALLOWANCE MADE FOR 8% REDUCTION
IN U.C.V. POUNDAGE RATE VIDE V.G.'S
CORRECTION FOR B/A'S WRONGLY INCLUDED)



VALUER-GENERAL'S SAMPLES

(WITH ALLOWANCE MADE FOR 8% REDUCTION
IN U.C.V. POUNDAGE RATE VIDE V.G.'S
CORRECTION FOR B/A'S WRONGLY INCLUDED)

FURTHER DETAILS ON CORRECTIONS

Note on Error No. 1.

The excess for this is given on pages 5 and 6 of the Valuer-General's Comments on the Supplementary Submissions of the Sydney Water, Sewerage and Drainage Board. This shows the Board's U.C.V. poundage rate for water at 1.616d. compared with the figure of 1.4842d. needed if the Board Adjustments had been excluded. This is an excess of 8.88 per cent apart from other corrections. The sewerage rate will also be excessive by an approximately similar percentage.

Note on Error No. 2.

The excess for this is shown on page 7 of the Board's Supplementary Submissions item 3(a) as 0.275 %.

Note on Error No. 3.

This error was drawn to attention by the Board itself in its Supplementary Submissions -- the case for it explained very clearly and the magnitude of the excess in its U.C.V. poundage rates caused by failing to take it into account worked out at 2.996%, and the correction involved a reduction of 2.91% - and yet the Board did not use this corrected figure in its exercise.

The case for making the correction is stated by the Board on pages 6 and 7 as follows :

" It could perhaps be argued that only half of the City of Sydney should be included in a survey of half of the Board's area because in Sydney an Unimproved Value / Assessed Annual Value ratio exists which is different to the overall ratio in most of the Board's area Thus Sydney , because of its size, tends to raise the overall Unimproved Value poundage rates of other areas in conjunction with which it is studied. In fact, the equivalent Unimproved Value water and sewerage rate for the 20 areas less Sydney is only 3.131d. as compared with the 3.369d. for the 20 areas. The inclusion of only half of the City of Sydney in a survey of half of the Board's area would, it is felt, be a purely theoretical approach, but because the proposition is of some interest the Board has calculated the equivalent Unimproved Value rates on this basis.

The resulting poundage rates were (overall) 3.2709347808d. which, on the combined figure, is only 2.91% less than the combined rate including all of Sydney. Thus, even if this approach were valid, the small variation (less than 0.1d. in the poundage rate as compared with the most accurate figure the Board has been able to calculate) would not produce any significant difference in the results."

The underlining in this quote is ours to draw attention to the only reasons given by the Board for failing to use this corrected rate in its exercise, Their lack of substance will be evident from the following comments :

(1) As to this treatment and correction being a " theoretical approach" it would be no more so than the Board's whole exercise. An exercise which takes 20 out of 44 component areas (including in the 20 the central city which has radically different characteristics to the rest) - and from these works out poundages which are assumed to apply over the whole 44 areas in its territory - is essentially a " theoretical approach" of first magnitude and a half-baked one at that if the correction is not made ;

(2) The Board shows a lack of sense of proportion in suggesting that an error of almost 3% in its U.C.V. poundage rate over the whole field of the exercise " would not produce any significant difference in the results ".

This makes an absurdity of its calculation of the poundage rates to the tenth decimal place when they contain an error of this magnitude. Even without the corrections for the other errors the effects on the numbers benefiting under the systems and the magnitude of benefit shown in its exercise would be greatly altered.

(3) The words " even if this approach were valid " vaguely suggests it is not without giving any reason. As it is, the Board is in the position of having conducted an exercise which it recognises is open to legitimate criticism. It wanted to forestal this criticism by pointing to the error itself. It worked out an approximation to the correction needed to take account of the error. But it failed to make that correction or even to work out the effects which it would have on its exercise.

Confirmation of Correction

The overall excess in the Board's poundage rate on U.C.V above the true figure is 12.15% which requires reduction of the Board's U.C.V. rate figures. by 10.83%.

This corresponds to an overall ratio of U.C.V. to A.A.V. of 6.166 over the whole of the Board's area. This is almost identical with our estimate of 6.2 used to develop the table on page 9 of our original submissions showing the penalty effect of the respective rating systems as at 1963/64. The agreement is not coincidental for it coincides with the last revaluation of the City of Sydney and therefore approximates the same conditions as reached by the Valuer-General with elimination of the Board Assessments as a source of error. The same result approached from different directions provides confirmation of the legitimacy and magnitude of the corrections.