Flow 204/Sale.

Rec'd 6th 5/16

VALUATION OF CARS.

SECRETARY'S NO. 1 SCHEME.

Standard Car.-

Assumed Facts -

(a) Estimated "Cost New" 1916..... £ 210.

(b) Total useful life..... 60 years.

(c) Cable system to be discarded in 10 years.

(d) Scrap or Residual Value... £ 20.

CONSIDERATIONS.-

In valuing the cars, regard should be paid to both Depreciation and Supersession (Obsolescence), but the method of giving effect to these principles is entirely different.

DEPRECIATION.- Assuming a useful life of 60 years, an annual depreciation of $1\frac{2}{3}\%$ per annum should be written off the "use" value viz. £190 each year = £3.167 per annum.

For example - A Standard Car which has been in use 30 years

Cost new.....	£ 210.
Deduct £3.167 x 30.....	95.01
Leaving a Present 'use' value of	£ 114.99

This is on the assumption that the cable system will continue for 30 years longer. The "Straight line" method of depreciation has been adopted.

SUPERSESSION.- The present value of this Car is thus £114.99 provided the tramways continue to be worked as cable tramways for 30 years longer. As however, it is assumed that the system will be scrapped at the expiration of 10 years, it is necessary to ascertain the Present Value of an asset worth £114.99 in 1916, the value of which will, in 1926, be reduced to £20. I think ~~thexxxxxxxxxf~~ this should be determined by estimating the "present value of its future 'use' value, plus present value "of its scrap or residual value".

The future "use" value of a car is approximately equal to the Interest and Depreciation on the sum required to manufacture

or purchase a new car; because unless a car can earn the Interest and Depreciation on its Capital cost, it will not pay to acquire it.

The Annual Interest at 5% and Depreciation at 1⅔% on the present value of the Car viz. £114.99 is £7.666 which represents the approximate annual Capital cost of the car.

As the Company's lease of the tramways did not expire until 1916 Supersession may be ignored until that date.

The value of the Car, allowing for depreciation and supersession will therefore be the present value of an annuity of £7.666 for 10 years, plus the present value of £20 Scrap or Residua value due 10 years hence.

The present value of £1 per annum for 10 years @ 5% is £7.721 x £7.666 =	£ 59.189
The present value of £20 payable 10 years hence is	12.278
Present value of the Car	£ 71.467

79.

Under this scheme the Company will not require to compensate the Board for repairs accrued to date.

It may be urged that the "annual use Value" £7.666 ignores the fact that the car will earn a large profit. This is so.

A Tramway Manager in considering the question of building or purchasing new cars would not allow for profit. He would argue that in order to meet Public convenience and to prevent competition he must provide cars to carry the passengers desiring to travel. He would only be guided by the fact that his new cars should earn Interest on Capital expended and provide a fund for Amortisation.

In purchasing cars from the Melbourne Tramway & Omnibus Co. the Good will or profit earning capacity of the Board's tramways should be excluded. It is true that these cars when worked with the Board's tramways may earn large profits, but it is also the fact that if another cable system were to purchase them theymight be run at a loss, or simply used as "Stand-by's to provide for emergencies.

SECRETARY'S NO.1 SCHEME. EXAMPLES.

0 years.- (Period Car has been in Use)

Cost new 1916.....	210.
Less Depreciation 3.167 x 30..	95.010
	114.990

Annual Capital Charges on this Car.

Interest 5% Depreciation 1⅔% on £114.990 = £7.666 per annum x Present value £7.721	59.189
Present Value of £20 Residual Value payable in 1926..	12.278
Present Value of Car.....	£ 71.467.

25 years.-

Cost..	210.
Less Depreciation 3.167 x 25	79.175
	130.825
Capital charges 6⅔% on £130.825 = £8.721 x £7.721	67.334
Present value of £20..	12.278
Present Value of Car..	£ 79.612

20 years.-

Cost	210.
Less Depreciation	63.340
	146.660
Capital Charges £9.777 x £7.721	75.486
Present value of £20...	12.278
Present Value of Car..	£ 87.766

15 years.-

Cost	210.
Less Depreciation	47.505
	162.495
Capital Charges 10.833 x 7.721	83.641
Present value of £20	12.278
Present value of Car..	£ 95.919

10 years.-

Cost..	210.
Less Depreciation	31.666
	178.334
Capital Charges 11.888 x 7.721	91.787
Present value of £20	12.278
Present value of Car	£ 104.065

5 years.-

Cost	210.
Less Depreciation	15.835
	194.165
12.944 x 7.721	99.940
Present value of £20	12.278
Present value of Car	£112.218

1 Year.-

Cost	210
Less Depreciation	3.167
	206.833
13.788 x 7.721	106.457
Present value of £20	12.278
Present value of Car	£118.735

0 Years.

Cost	210.
14 x 7.721	108.094
Present value of £20	12.278
Present value of Car	£ 120.372