TABLE II
Sound absorption by theater seats and audience, in absorption units

	FREQUENCY—HERTZ					
	125	250	500	1000	2000	4000
Wood or metal seats, unoccupied	0.15	0.19	0.22	0.39	0.38	0.30
Cloth-covered upholstered seats, unoccupied	1.4	2.8	4.2	5.0	4.6	4.4
Audience in upholstered seats, per person	2.9	4.3	6.0	7.0	6.9	6.0

n.b. Air absorbs sound somewhat too – *i.e.* air temperature & relative humidity also matter! Taking into account air absorption, the Sabine Equation is modified as:

$$T_{60} = 0.049\frac{V\left(ft^3\right)}{A\left(ft^2\right)+mV\left(ft^3\right)} = 0.161\frac{V\left(m^3\right)}{A\left(m^2\right)+m\cdot V\left(m^3\right)}$$

where m is a temperature, humidity and frequency-dependent parameter, varying from $m \sim 0.01/m$ at 2 *KHz* to $m \sim 0.1/m$ at 8 *KHz* for ~ *NTP* conditions with *RH* ~ 30-50%.

Nowadays, all of this is done using acoustical computer simulation programs (*e.g.* EASE, LARA), all "tuned" from real measurements. Input all of the gory details of shape, size, and volume of rooms, exact shapes, sizes, and locations of all sound absorbing elements, *etc.* (also frequency dependence – see figure below)!

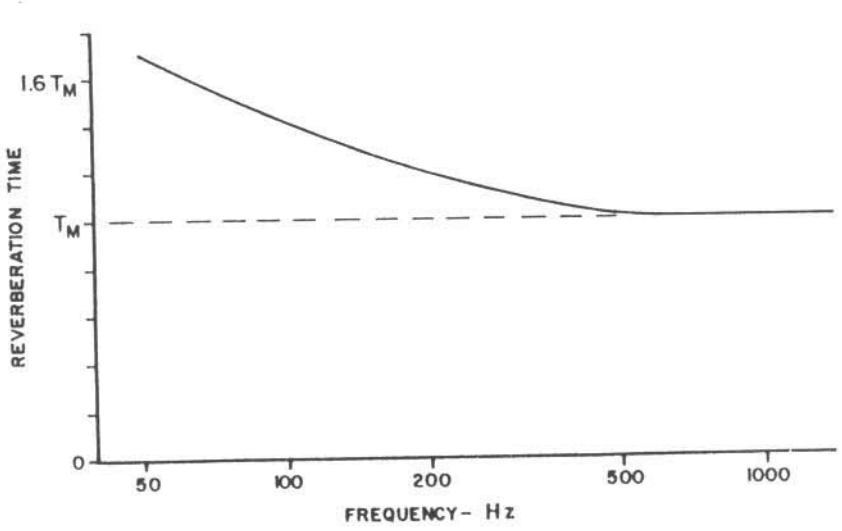

FIG. 6. Recommended variation of reverberation time with frequency.

Again, "Recommended" => subjective decisions were made about this….