Appendix B Derivation of Chart I

(a) Two-lane Single Carriageway

Assume:

Volume of Traffic (Q)	= 800 veh/hr.
Speed Correction	= +3.5dB(A)
Angle of View Correction	= 160 degrees

Basic Noise Level	= 10 x log 800 + 41.2 + 3.5 = 73.7dB(A)
Angle of view correction	= - 0.5dB(A)
Facade correction	= +2.5dB(A)

In order that the L_{10}(1hr) at facade be reduced to 70dB(A), the distance correction must be

= 73.7 - 0.5 + 2.5 - 70
= 5.7dB(A)

Therefore, the distance required = 45m

(b) Four-lane Dual Carriageway

Assume:

Volume of traffic	= 5,200veh/hr
Speed correction	= +4.5dB(A)
Angle of view	= 160 degrees

Basic Noise Level	= 10 log 5,200 + 41.2 + 4.5 dB(A) = 82.9 dB(A)
Angle of view correction	= - 0.5 dB(A)
Facade correction	= +2.5 dB(A)

In order that the L10(10hr) at facade be reduced to 70 dB(A), the distance correction must be

= 82.9 - 0.5 + 2.5 - 70
= 14.9 dB(A)

Therefore, the distance required = 400m