

$H_0: \mu_1 = \mu_2$

i.e., houses near the major roads have the same owner-occupancy rate as houses farther away from major roads. In other words, they are from the same population.

$H_a: \mu_1 \neq \mu_2$

i.e., houses “near to” and houses “far away” from major roads have different owner-occupancy rates. In other words, they are from two different populations.

t test:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Significance level: $\alpha = .05$, or for two-tailed test $\alpha/2 = .025$

Rejection region: for two-tailed test, reject if $t_{\alpha/2} > 1.96$ or $t_{\alpha/2} < -1.96$ with $n_1 + n_2 - 2 = 80 + 166 - 2 = 244$ degrees of freedom (in this case “infinity”).