Errata

Regarding the dissertation "Re-examining the built environment-travel behavior connection: A case study of Japanese cities"

On page 81, paragraphs 2 and 3 read:

"The problem with the naïve estimator in equation (18) is that a truly random experiment of residential location

is virtually impossible, and in the absence of randomization the estimated coefficients are biased and inconsistent.

This can be easily seen by restating equation (15) following Angrist (1998) where

(1) $E[Y_{1i} - Y_{0i}|z_i = 1] = E[Y_{1i}|z_i = 1] - E[Y_{0i}|z_i = 1] + (E[Y_{0i}|z_i = 1] - E[Y_{0i}|z_i = 0])$

where the component to the right side of the summation corresponds to selection bias. This bias cancels out if

and only if treatment assignment is independent from outcomes as equation (16) shows."

The corrected text should read:

"The problem with the naïve estimator in equation (18) is that a truly random experiment of residential location

is virtually impossible, and in the absence of randomization the estimated coefficients are biased and inconsistent.

This can be seen by stating the difference in observed outcomes following Angrist (1998) where

(2) $E[Y_{1i}|z_i = 1] - E[Y_{0i}|z_i = 0] = E[Y_{1i}|z_i = 1] - E[Y_{0i}|z_i = 1] + (E[Y_{0i}|z_i = 1] - E[Y_{0i}|z_i = 0])$

where the component to the right side of the summation corresponds to selection bias. This bias cancels out if

and only if treatment assignment is independent from outcomes as equation (16) shows."