UNIVERSITY OF CALIFORNIA SANTA BARBARA
DEPARTMENT OF GEOGRAPHY
GEOG 210B – Analytical Methods in Geography II - WINTER 2018

Assignment 1: Linear Regression with R
(Due February 6, 2018 by 11:59 pm)

Part 1: Report a table of descriptive statistics using package "psych" of the variables in the dataset called SmallHHfile.

Part 2: Estimate the following model (called Model 1 herein):

Dependent variable (y): MilesPr
Independent variables (x): Mon + Tue + Wed + Thu + Fri+ Sat + HHVEH + HHSIZ + suburb + exurb+ rural

Mon, Tue, Wed, Thu, Fri, and Sat are the dummy variables indicating on which day of the week the household and the persons in the household completed their diary.
HHVEH is the number of cars the household owns.
HHSIZ is the number of persons in the household
The variables suburb, exurb, and rural are dummy variables indicating if the household lives in the suburbs, exurbs (outside ring of a city), or rural environment (see also attached map).

2.1 Report in a table the regression coefficients, their standard errors, t-stats, and R-square (it is ok to just use the standard reporting of R for object lm.

2.1 Write the equation that corresponds to this model.

2. 3 Write a short summary of the model in a similar fashion as our discussion in class highlighting which coefficients are significantly different than zero and what they tell us.

Part 3: Estimate a model using just one of the following as the dependent variable (called Model 2 herein).

Possible y: **TrpPrs** (this is the number of trip per person) or **HTRIPS** (this is the number of trips for each household).

3.1 Report in a table the regression coefficients, their standard errors, t-stats, and R-square (it is ok to just use the standard reporting of R for the object **lm**.

3.2 Write a comparison summary between Model 1 and Model 2.