

CE 454 Urban Transportation Systems
Portland State University
Department of Civil and Environmental Engineering
Fall Quarter 2009

PROBLEM SET # 5 - HANDOUT

Problems from text book: 8.1, 8.3, 8.5

Assigned: 11/04/09

Due date: 11/09/09

Turn in paper copy. Format the output in a professional manner.

Obtain data from class website in the Excel format.

Create a trip generation model for “**hbshop**” trips using EXCEL to perform linear, least squares multiple regression. The equation will be of the form $y = b_0 + b_1 \cdot x_1 + b_2 \cdot x_2$ where y is the number of trips (dependent variable) and x is the independent variables.

1. Create 2 linear models to predict the number of “**hbshop**” trips each using one independent variable (persons, vehicles, workers, etc)
2. Create plots showing the predicted number of trips with the model input data also shown.
3. Create 1 linear model using 2 independent variables (persons, vehicles, workers, etc) of your choice.
4. Create a summary table showing the R-squared value, the intercept, the coefficient, and the p-value for each variable for the 3 models you have created.
5. Comment on your models – do you feel “good” about them? Which one would you choose? Why?