Exploration 9B: Maintenance Cost for Trucks

The data file “C09 Truck\_data.xls” contains information on trucks owned by Metro Area Trucking. We are interested in predicting how all of the variables influence the maintenance costs.

Analyze the Variables

Response variable:

Numerical variable:

Categorical variables broken down by categories:

Dummy Variables: (Notice that “location” is already coded as 0 or 1, so there is no need to create dummy variables for it.)

Build the models

Create the full regression model. What is the equation of the model? How good is this model? What does it tell you about maintenance costs for each type of truck? How does location influence the maintenance cost?

Are there any variables in the full model that should be eliminated? Why? Is there a theoretical justification for eliminating them?

Create a model with nonessential variables eliminated. What is the model equation? How does it compare (in quality) with the full regression model? What does it tell you about the maintenance costs of each type of truck? What does this model tell you about how location affects maintenance costs?