Technical Advisory – New Factors for Poor Pavement, Value of Time Adjustment, and Other Societal Costs/Benefits

New input adjustments have been added to TREDIS to improve the model accuracy.

Poor Pavement Adjustment

Inputs have been added for assessing the impacts of road pavement conditions on travel.

On the Modes screen, selecting Adjust Mode Factors and then Other Costs will allow you to enter project defaults for the vehicle operating costs penalty due to poor pavement. The input is the ratio of the penalty value as compared to the normal value.

For example, if the cost associated with driving on poor pavement is twice that of driving on normal pavement, then the VOC Penalty Ratio for Poor Pavement would be 2.

To enter the penalties associated with fuel consumption due to poor pavement condition, select the Fuel Consumption tab and enter a value in the Fuel Penalty Ratio on Poor Pavement. A ratio value of 2 would mean the fuel consumption on poor pavement would be twice that of normal pavement.

On the Travel screen, selecting the Other tab, you may enter the fraction of pavement that is in poor condition. This allows you to evaluate pavement improvement projects for a segment of the travel in the region. The allowed values are from 0 (no poor pavement) to 1.0 (all pavement is in poor condition).

Value of Time Adjustment

TREDIS now allows you to adjust the default value of time for the project as a ratio compared to the normal value of time. A value of 2 would mean the value of time is twice the normal value of time. This setting can be found from the Modes screen by selecting Adjust Mode Factors and then the Other Costs tab.

On the Other tab on the Travel screen, you can input the Fraction of Hours Traveled with Adjusted Value of Time (VOT). So, if a fraction of 0.5 is entered, then one half of the hours travelled would use the standard costs per hour, and the other half would use the standard cost times the adjustment made via the Modes screen.

Societal Benefits and Costs

On the Modes screen, in the Adjust Mode Factors dialogue box, two new fields are available under the tab Other Costs. The Other Societal Benefits input allows you to enter a value to monetize an otherwise non-monetized benefit, such as the public health benefits of bicycling. The Other Societal Costs input will monetize costs that cannot otherwise be monetized, such as noise or the discomfort of crowded public transit. Both inputs are entered as positive numbers (or zero) and are measured on a vehicle-mile basis.