

Pavement Analysis Engine Execution Steps

After user clicks **Run Scenario**, the optimization engine follows these steps:

1. If a Master Work Plan selected, system does a Finest Partition between the Network Master and the Work plan.
If not, go to step 2.
2. System copies the corresponding segments from Network Master or from last step into optimization engine table.
3. Performance Index deteriorates by one year.
4. System updates columns in PMS Analysis Columns with a Calculated Groovy based on the groovy, in the order of their Update Order. In this around, only the base column is updated. In other words, in Calculated Groovy execution, the alt_in argument of the groovy has value 0.
5. Assign treatment based on decision tree.
6. Update the performance index column values based on the treatment (bottom left of the Treatment window), in the order of their order of their Update Order in PMS Analysis Columns window.
7. Update other column values based on the treatment (bottom right of the Treatment window), in the order of their order of their Update Order in PMS Analysis Columns window.
8. Update any columns in PMS Analysis Columns with a Calculated Groovy based on the groovy, based on its UPDATE_ORDER_ID. In this around, the _ALT_1 column is updated (or _ALT_2 and _ALT_3 columns, depending if this is from a General decision tree or IncBen decision tree). 1/2/3 correspond to the treatment assigned from the Decision Tree (see Section 2 for details). In other words, in Calculated Groovy execution, the alt_in argument of the groovy has value 1.
9. The solver runs and select the treatments that meet the constraint and objectives. For any segments where the treatments are selected, _ALT_1 column values are copied into the base column.
10. Save constraint results, scenario report, scenario work plan results and detailed results.
11. Go back to Step 3 and repeat for the next year in the analysis period.