# Eco-CAC simulation instruction

1. Download the 4 zip files of the simulation software: “Eco-CAC Simulation Software.zip.001” to “Eco-CAC Simulation Software.zip.004”.
   1. Rename the filenames and remove the numbers at the end (“001” to “004”)
   2. Unzip the four files.
   3. Copy the four unzipped folders into one folder.
2. All input files are located in “simulation-dataset” folder.
3. Twelve Eco-CAC simulation scenarios are included.
   1. 2019 vehicle composition scenarios (86.8% ICEVs, 7.7% BEVs, and 5.5% HEVs)
      1. No congestion case
         * Base case (0% connected vehicle market penetration rate case) - LA3\_2019\_0\_00000\_123\_025\_VehComp\_0.INT
         * 25% connected vehicle market penetration rate case - LA3\_2019\_025\_01110\_1123\_025\_VehComp\_11\_0.INT
         * 100% connected vehicle market penetration rate case - LA3\_2019\_100\_11100\_123\_025\_VehComp\_14\_0.INT
      2. Heavy congestion case
         * Base case (0% connected vehicle market penetration rate case) - LA3\_2019\_0\_00000\_123\_100\_VehComp\_0.INT
         * 25% connected vehicle market penetration rate case - LA3\_2019\_025\_01110\_1123\_100\_VehComp\_11\_0.INT
         * 100% connected vehicle market penetration rate case - LA3\_2019\_100\_11100\_123\_100\_VehComp\_14\_0.INT
   2. 2030 vehicle composition scenarios
      1. No congestion case
         * Base case (0% connected vehicle market penetration rate case) - LA3\_2030\_0\_00000\_123\_025\_VehComp\_0.INT
         * 25% connected vehicle market penetration rate case - LA3\_2030\_025\_00010\_1232\_025\_VehComp\_6\_0.INT
         * 100% connected vehicle market penetration rate case - LA3\_2030\_100\_11100\_123\_025\_VehComp\_9\_0.INT
      2. Heavy congestion case
         * Base case (0% connected vehicle market penetration rate case) - LA3\_2030\_0\_00000\_123\_100\_VehComp\_0.INT
         * 25% connected vehicle market penetration rate case - LA3\_2030\_025\_00010\_1232\_100\_VehComp\_6\_0.INT
         * 100% connected vehicle market penetration rate case - LA3\_2030\_100\_11100\_123\_100\_VehComp\_9\_0.INT
4. Users can run each simulation scenario or in batch mode to simulate all scenarios with one command.
   1. In order to run each simulation scenario, open “Command Prompt” and change a directory to “Eco-CAC simulation files” folder”.
      1. Type “intgrates.exe LA3\_2019\_0\_00000\_123\_025\_VehComp\_0.INT” to run 2019 vehicle composition, no congestion, base case scenarios or change another input file.
   2. In order to run all scenarios, select and double click “Eco\_cac\_run.bat” in “Eco-CAC simulation files folder”.
      1. Users can change the order of scenario runs or run a set of selected input files by editing “Eco\_cac\_run.bat” using any text editor.