STREETVAL-RL Computational Engine from SHRP 2 Project L08: Incorporation of Travel Time Reliability into the HCM

The STREETVAL-RL computational engine employs a scenario generator that feeds the Urban Streets Highway Capacity Analysis (HCM) methodology in order to generate a travel time distribution from which reliability metrics can be derived. STREETVAL-RL includes four files:

1. **The Urban Streets Reliability Engine (USRE) workbook** supports the evaluation of a facility's reliability of service, in terms of its operational performance over an extended time period. The software is distributed as a Microsoft Excel workbook using the Visual-Basic-for-Applications (VBA) programming language.
2. The **Urban Streets Computational Engine (USCE) workbook** implements the Urban Streets methodology described in Chapter 16 of the 2010 *Highway Capacity Manual* (HCM). This workbook is used to create the HCM dataset that includes the input data needed to evaluate an urban street facility using the HCM.
3. The **HCM Executable** file is a compiled version of the VBA code in the USCE workbook. It is called by the USRE workbook and used to evaluate the dataset associated with each scenario. It is compiled to minimize the time required to evaluate a dataset. Note: The file will need to be unzipped to extract the file "engine17.exe."
4. The **USRE User Guide** provides guidance for using the Urban Streets Reliability Engine (USRE). It is a software tool that supports the evaluation of a facility's reliability of service, in terms of its operational performance over an extended time period.