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VehicleSim Database Options

Databases for CarSim, TruckSim, BikeSim, and SuspensionSim are built using the **Database Builder** tool (Figure 1).

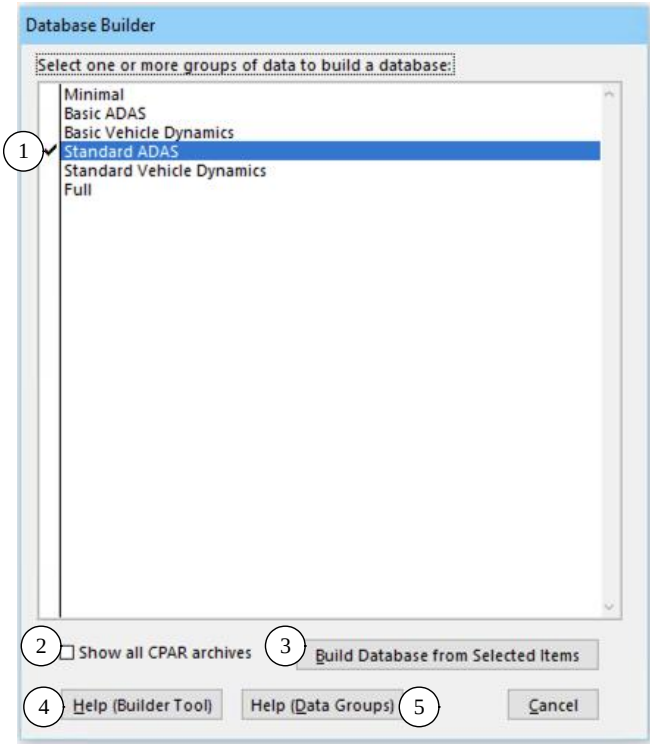

Figure 1. The database builder window showing only predefined database options.

With this tool, you select one or more groups of data to include in the database, and then click the **Build Database** button (3).

Documentation for this tool is viewed by clicking the first Help button (4). That document may also be viewed from the Browser Help menu: **Help > Tools > Database Builder**. Details about the data groups are presented in this document, which is obtained with the second Help button (5) or from the Help menu in the category **Release Notes**.

Table 1 provides a little more information about the six pre-defined options in CarSim, TruckSim, and BikeSim.

Table 1. Pre-defined database options.

Database Option	Description	Target Users
Minimal	Examples showing new features, plus core examples such as the Quick Start Guide example, output options, payloads, validation examples, and Preferences	Experienced users with existing databases
Basic ADAS	Minimal + most ADAS examples	New users interested in basic ADAS options
Basic Vehicle Dynamics	Minimal + examples showing vehicle properties and tests	New users interested in basic vehicle dynamics options
Standard ADAS	Basic ADAS + driver model examples, multiple vehicles, roads, proving grounds, LabVIEW, Simulink, VS Visualizer data	Users interested in all examples relevant for ADAS applications
Standard Vehicle Dynamics	Basic Vehicle Dynamics + driver model examples, roads, Proving Grounds, LabVIEW, Simulink, K&C Sequence, vehicle configurations, VS Visualizer data	Users interested in all examples relevant for vehicle dynamics evaluations
Full	Standard ADAS + Standard Vehicle Dynamics + Advanced VS Commands, Custom Forces and Motions, Embedded Python, Extended Models, External Control, Kinematical Preview. This option is like the example databases in versions prior to 2021.1.	Users interested in all capabilities that do not require extra licenses or software (other than Sensors, Simulink, or LabVIEW)

Notice that the descriptions of the Database Options build on each other. All options include the examples from the Minimal option; the Standard ADAS option includes the Basic ADAS datasets, which in turn includes the Minimal datasets. The Full Database Option includes all the examples from the Standard ADAS and Standard Vehicle Dynamics, plus examples showing advanced features such as VS Commands, custom forces and variables, embedded Python, etc. that are used to extend the VS Math Models.

None of the six Database Options include specialty examples, such as RT HIL systems, software development kit (SDK) examples, etc. To access these, and other specific categories of examples, check the box **Show all CPAR archives** (3) (Figure 2Figure 2) to see the entire collection.

The datasets that are available for new databases are obtained from a set of special CPAR archive files that are contained in the installed Prog folder for the product (e.g., `CarSim_Prog\Resources\CPAR_Archives`). For example, Figure 3 shows the contents of the `CPAR_Archives` folder for CarSim 2024.0, with 77 CPAR archive files.

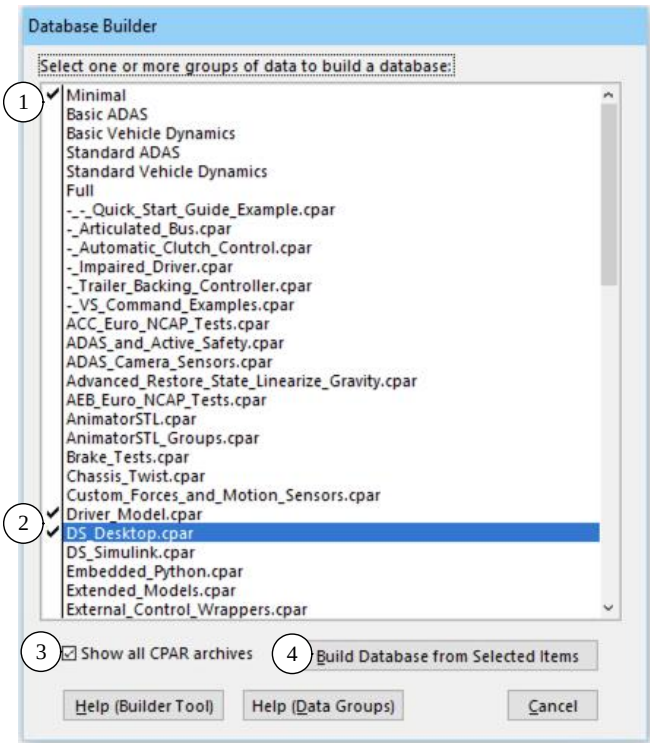

Figure 2. Display when CPARs are also shown.

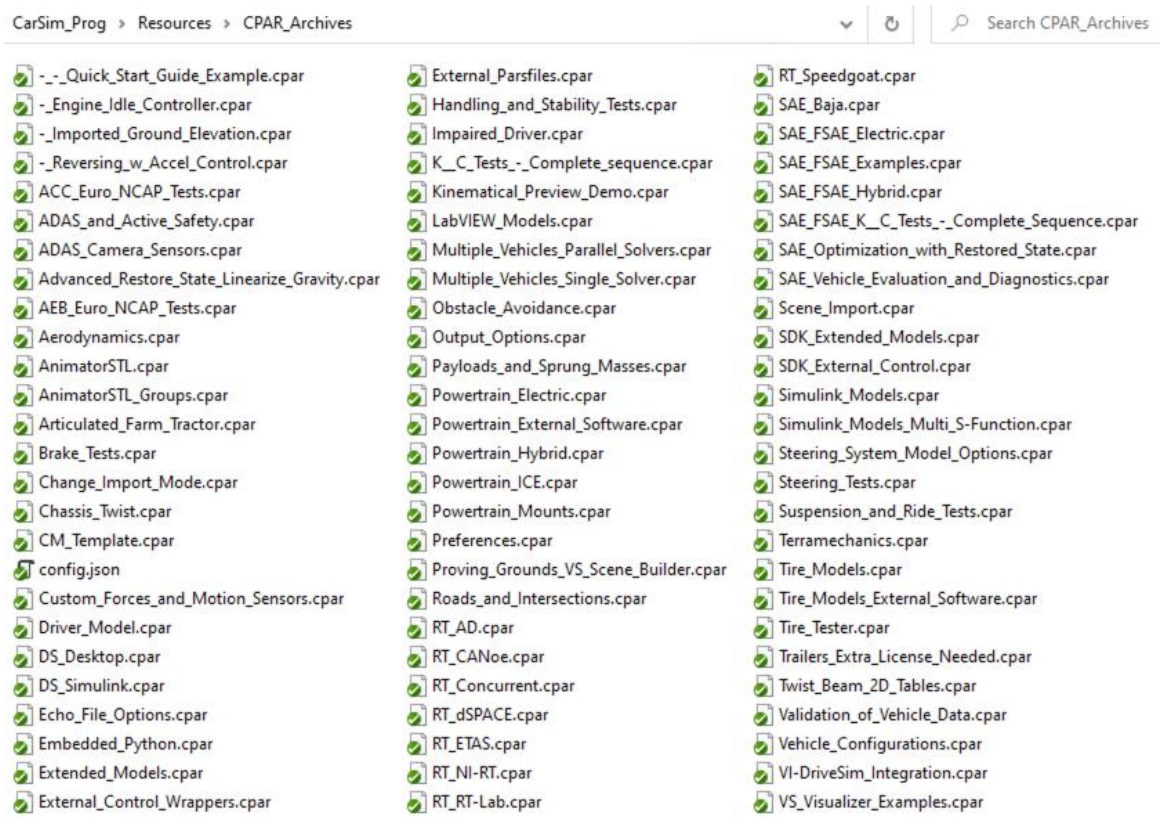

Figure 3. Contents of the CPAR_Archives folder in CarSim.

The CPAR file names correspond to categories shown for the datasets in the VS Browser, with spaces replaced with underscore characters and asterisks replaced with hyphens. For example, the category "`* * Quick Start Guide Example`" matches the CPAR file named `-_-_Quick_Start_Guide_Example.cpar`.

CPAR archive files whose names begin with DS_ have examples for desktop driving simulators; those beginning with RT_ are for examples in real-time systems; those that begin with SAE_ are for student SAE examples; and those that begin with SDK_ are examples for the VS Software Development Kit (SDK).

For more information about the six Data Options or any of the CPAR archives, use the Database Builder to create a new database with the option and/or CPAR archives of interest. For example, Figure 4 shows Dataset categories in CarSim 2024.0 after creating a database with the Basic ADAS option. You can view results for all runs in the new database, along with all settings used to make those runs.

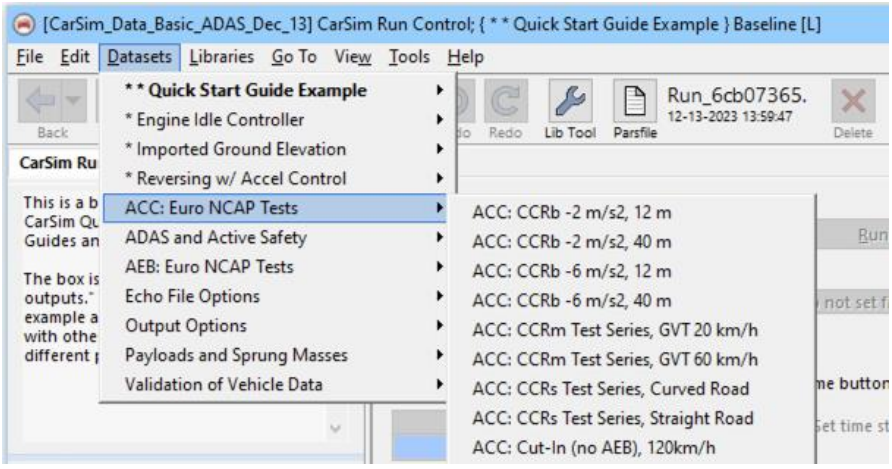

Figure 4. CarSim database made with Basic ADAS option (version 2024.0).