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A Suite of Macros to Enable Flexible Specification of Multiple Data Sources

In large model systems the inputs are generally located in a number of files. When models are run to evaluate a range of scenarios, normally most of the inputs remain the same with only a couple of the inputs varying. The challenge that the Bureau of Transport Statistics (BTS) faced was how to design and implement a system within the Emme environment which allowed the "standard" (default) files to be specified and at the same time incorporate flexibility allowing the specification of any of the input files to be altered.

Within the Emme macro there are ten text registers available to the user. However, two of these registers; t0 and t9 are reserved for specific purposes. The t0 register contains the contents of the current macro arguments and the t9 register is the only text register which can be used to return text arguments to the calling macro. This leaves only eight effective text registers available to the user. Also, if the macro which will read in the relevant data is nested several layers below the main macro it is cumbersome to be passing the relevant text between the various macros. The approach which the BTS has adopted was to create a text file. This text file contains an argument and a stored value. This text file can be written to on multiple occasions. The stored value for any argument can be retrieved from calling a retrieval macro. This retrieval macro uses a last in first out (LIFO) method to find the argument and return the relevant stored value.

Whilst the approach was initially designed to manage the specification of filenames, it can also be utilised for other applications, for example the specification of project labels and the filename of the common components of a transit assignment specifications.

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