

3

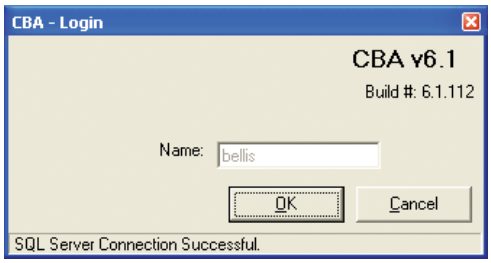
2 CBA6 settings and features

This section examines the use of CBA6 including general software design and user settings. This section will outline the system settings that are used to configure CBA6 for project evaluation.

2.1 CBA6 logon and workspace

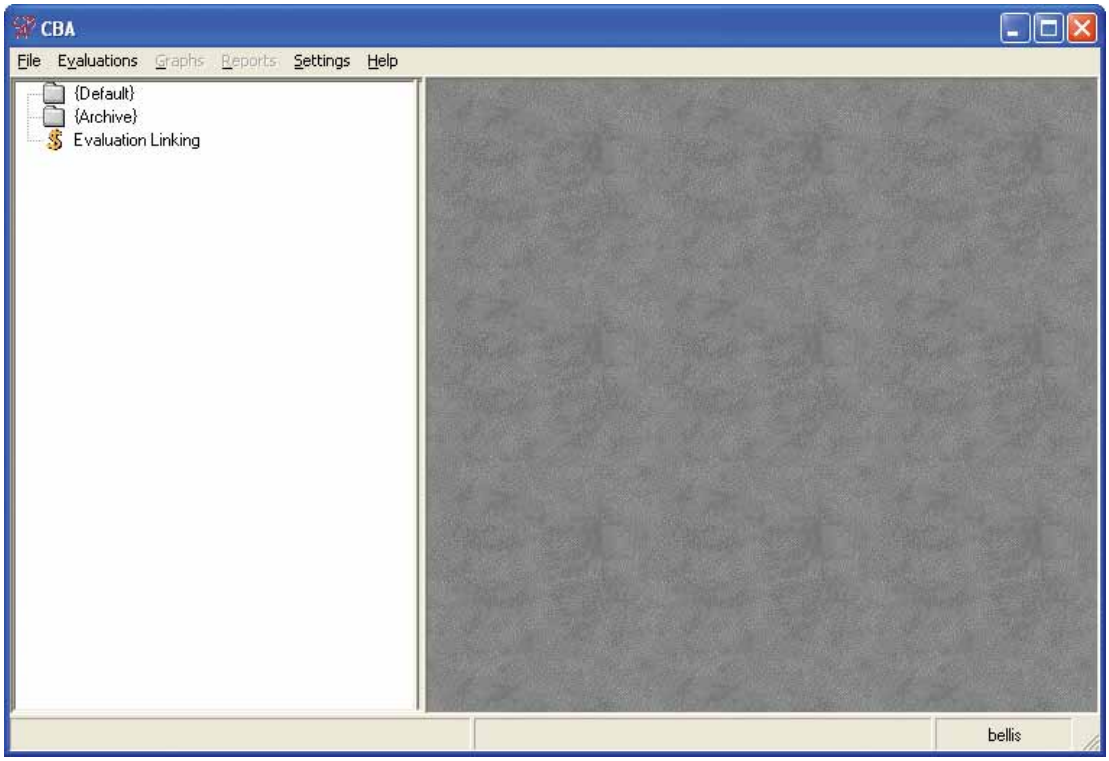
CBA6 is available in the Windows start menu or located via an icon on the desktop. The login screen displays the tool version number and user name. Once the login screen appears, CBA6 will automatically fill in the system user's Windows ID.

Figure 1: CBA6 login screen



Once the tool starts, the CBA6 workspace will appear and the tool is ready for use. Figure 2 shows the workspace and associated menu structure. The interface consists of a series of drop-down menus which display a list of options when highlighted. The workspace also consists of two empty folders '{Default}' and '{Archive}' and an 'evaluation linking' option. Some menu options are only available when a 'project' has been created. An explanation of each menu item and the workspace is shown below.

Figure 2: CBA6 workspace



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2.2 File menu

The file menu is used for importing and exporting individual projects, database backups, creating and editing evaluation folders and exiting CBA6, see Figure 3. The remainder of Section 2.2 will discuss each of the drop-down menu options.

Figure 3: CBA6 file menu



2.2.1 Import/export evaluation files

CBA6 allows the user to export completed evaluation files to other directories, or import externally stored files into the tool for further assessment.

2.2.1.1 Export evaluation

For security purposes, all evaluation files should be exported and stored in a safe location. Reducing the number of evaluation files stored in the tool may also increase performance of the tool. The CBA6 tool can be used to export individual evaluation files or back up all evaluation files stored in the tool. The evaluation export screen is shown in Figure 4.

Figure 4: Exporting an individual evaluation

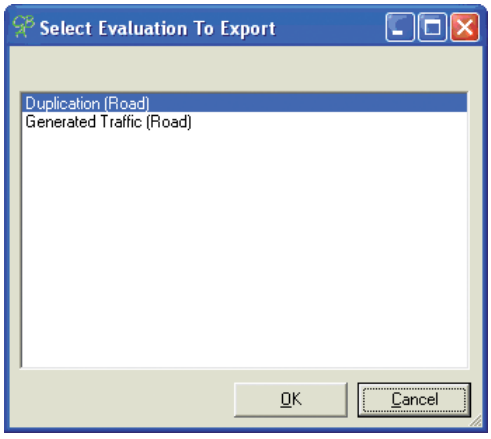
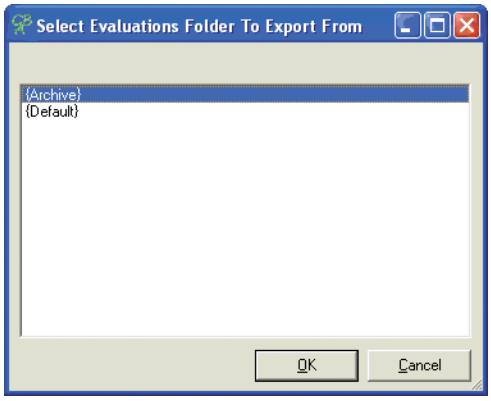


Figure 4 indicates two evaluation files to be exported. The system user selects one of these files and saves it to a secure location.

Alternatively, system users can export all projects that have been created. This form of backup is used to store completed evaluation files in a safe location. To back up completed road projects, proceed to the file menu then select 'export all' (from Figure 3), choose the evaluations folders that all projects will be exported from and select 'ok'. In Figure 5 the system user can back up evaluation files created in either the '{default}' or '{archive}' folders. The backed up valuation will now be stored in the chosen directory (file extension *.cba).

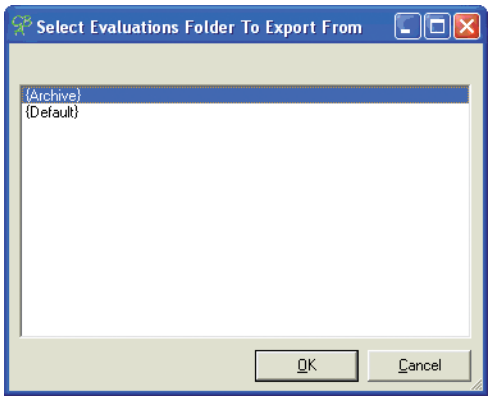
Figure 5: Back up completed evaluation files from project folder



2.2.1.2 Import evaluation

System users are able to import project files from external locations using the 'import evaluation' option from the file menu, see Figure 6.

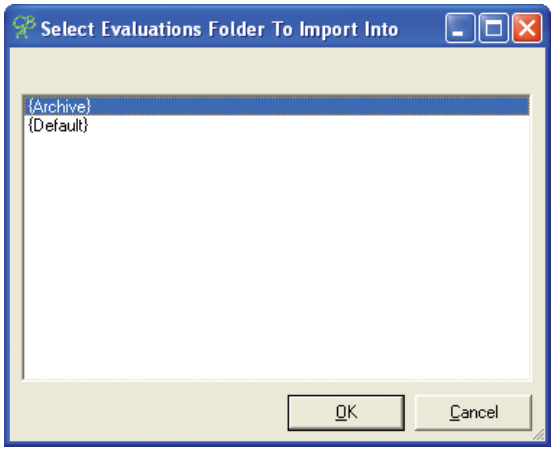
Figure 6: Import individual evaluation files



System users then select the project folder location for the imported CBA file from the CBA6 workspace, see Figure 7.

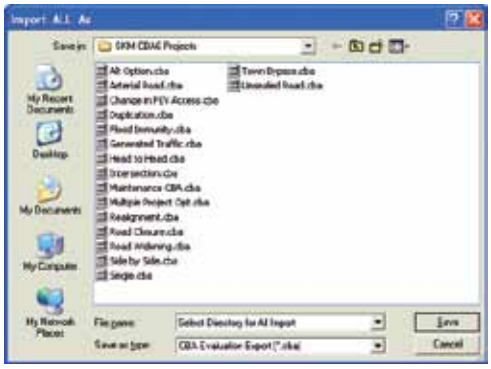
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Figure 7: Import completed evaluation files to project folder



To import a number of backed up projects, the system user selects the 'import all' option. All files from a directory can then be imported into a project folder, see Figure 8.

Figure 8: Import all evaluation files



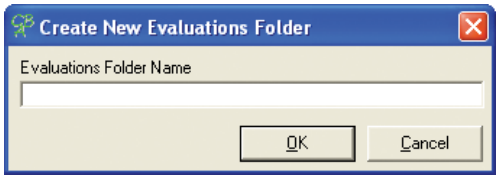
2.2.2 Evaluations folders

The evaluations drop-down menu can be used to create new evaluations folders, maintain the evaluations folders and rename or delete the evaluations folders.

2.2.2.1 Create new evaluations folder

CBA6 contains two folders for storing projects, the '{Default}' and '{Archive}' folders, see Figure 2. System users can add additional evaluations folders to store projects, see Figure 9.

Figure 9: Create new evaluations folder

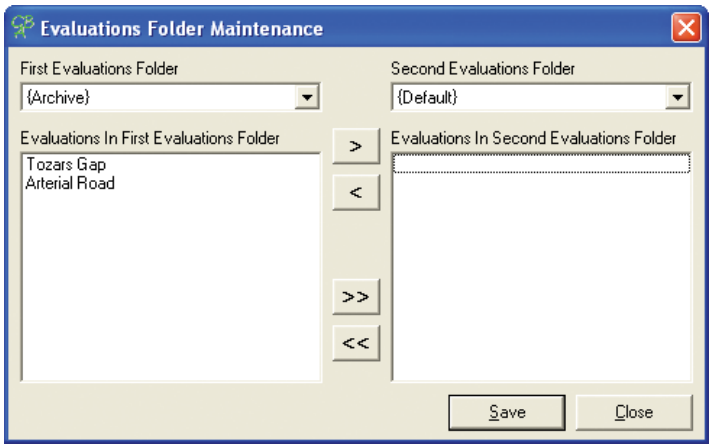


System users may wish to create their own evaluations folder to store common projects. For example a system user could create a project folder entitled 'Bruce Highway' and store all project evaluation files undertaken on the Bruce Highway under this folder.

2.2.2.2 Maintain evaluations folder

Evaluations folder maintenance enables the transfer of evaluation files between project folders. In Figure 10 the 'duplication' evaluation could be transferred from the '{Default}' project folder to the '{Archive}' evaluations folder.

Figure 10: Evaluations folder maintenance

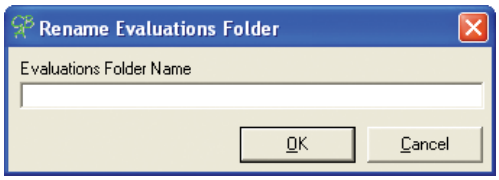


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2.2.2.3 Rename evaluations folder

To rename an evaluations folder ensure a user created folder is highlighted and select the 'rename evaluations folder' option from the file menu, see Figure 11.

Figure 11: Rename evaluations folder

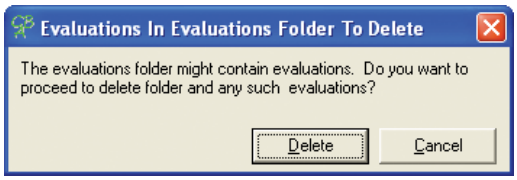


Note: The '{default}' and '{archive}' folders cannot be renamed.

2.2.2.4 Delete evaluations folder

To delete a user created evaluations folder select the 'delete evaluations folder' option from the file menu. A warning message will appear before the evaluations folder is deleted, see Figure 12.

Figure 12: Delete evaluations folder

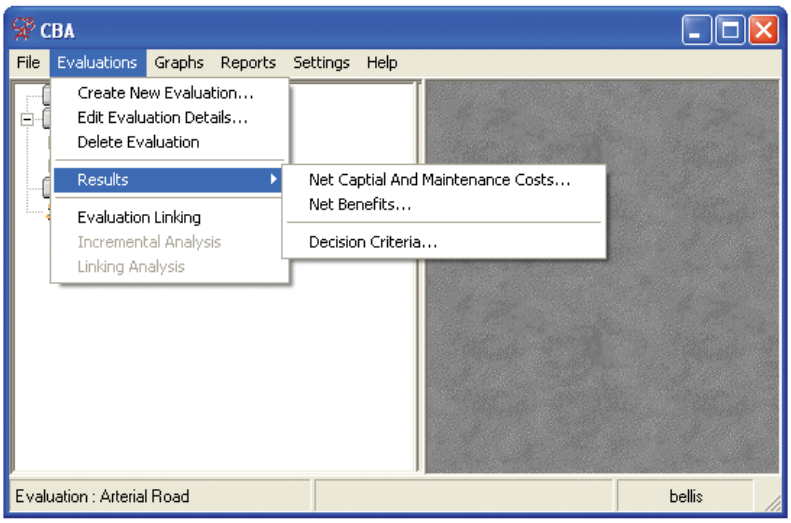


Note: The '{default}' and '{archive}' folders cannot be deleted.

2.3 Evaluations menu

The evaluations menu is used to create an evaluation of a proposed road project, see Figure 13. This menu can also be used to view results of the economic evaluation of a specific project or to link several projects together using an incremental or linking analysis. The evaluations menu is explained in detail in Section 3.

Figure 13: CBA6 evaluations menu

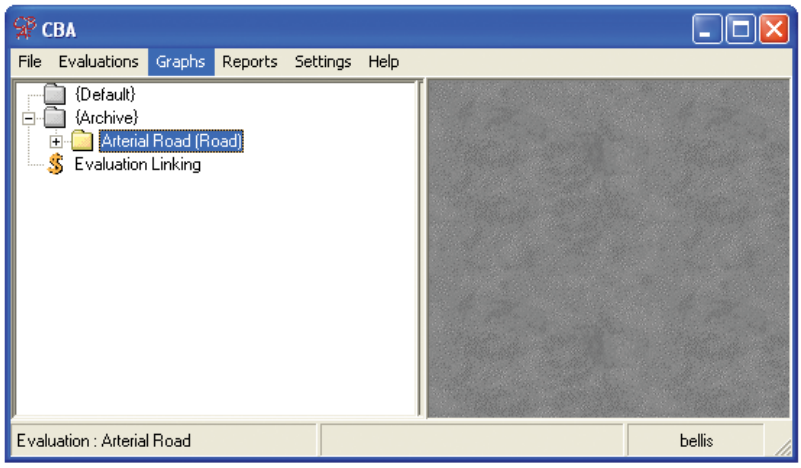


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2.4 Graphs menu

The graphs menu is shown in Figure 14. Line or bar graphs of project results data can be created through the graphs menu. Graphing is discussed further in Section 4.8.

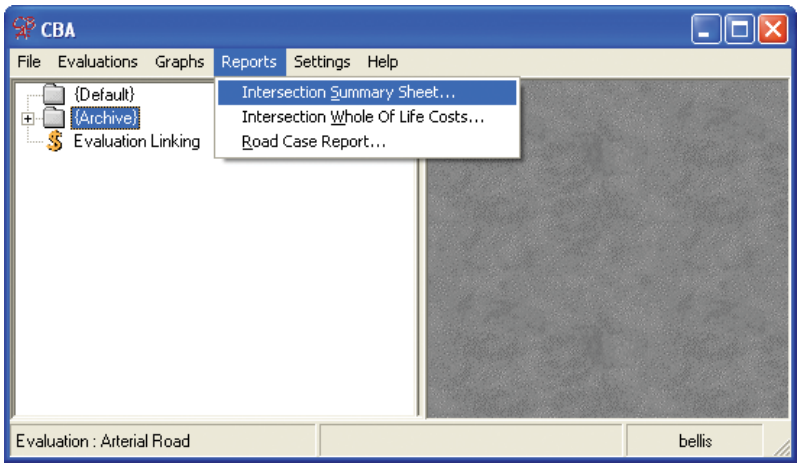
Figure 14: Graph menu



2.5 Reports menu

Various reports detailing the results from the CBA can be viewed and printed through the reports menu, see Figure 15. For further information on reports, see Section 4.6.

Figure 15: Reports menu

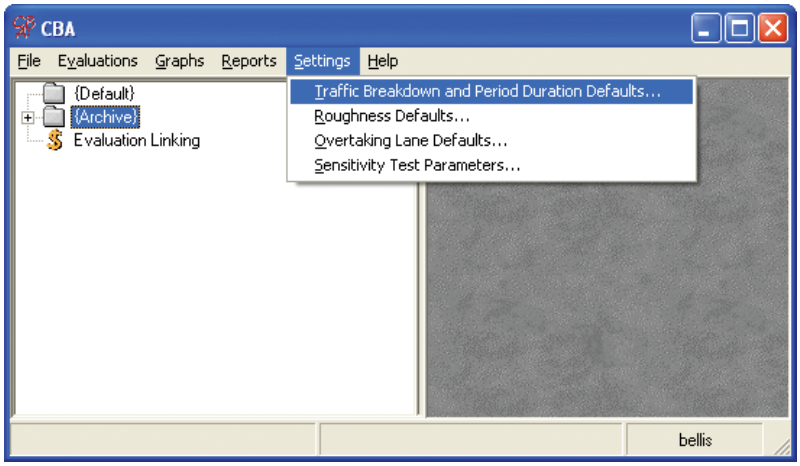


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2.6 Settings menu

The settings menu enables the system user to alter the system default data to a user-specified range, see Figure 16.

Figure 16: Settings menu

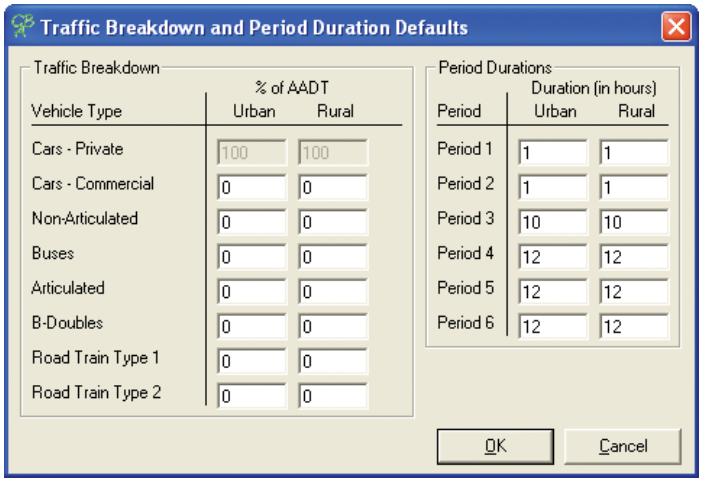


2.6.1 Traffic breakdown and period duration defaults

While undertaking an evaluation, the system user is required to enter traffic details including AADT, growth and traffic composition. The traffic breakdown and period duration defaults screen settings enable the user to enter project-specific values for more than one project at a time.

The design of CBA6 allows the system user to enter values for traffic composition in both rural and urban environments that can be used in multiple evaluations. This feature allows the system user to use the same settings on new evaluations which are located on the same link or corridor.

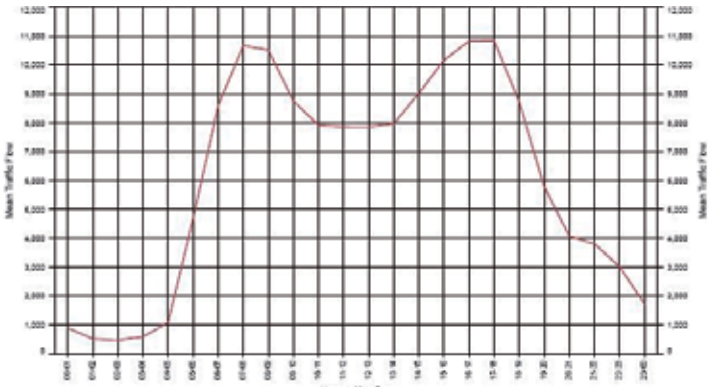
Figure 17: Traffic breakdown and period duration screen



Period durations are used to quantify road user costs within the intersection module of CBA6. Period duration defaults can be changed to reflect peak spreading or increases in total peak durations.

- Period 1 – morning peak
- Period 2 – afternoon peak
- Period 3 – non-peak
- Period 4 – night
- Period 5 – weekend day
- Period 6 – weekend night

Figure 18: Description of peak periods

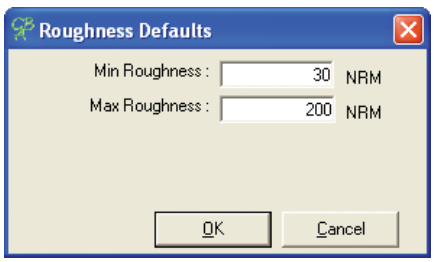


Note: The total of periods 5 and 6 should add to reflect the daily weekend duration, while periods 1 to 4 should cumulatively add to 24 hours, to reflect weekday durations.

2.6.2 Roughness defaults

The CBA6 tool allows the advanced user to change the default road roughness limits, see Figure 19. It is recommended that specialist engineering advice be sought before altering the roughness default settings.

Figure 19: Roughness defaults



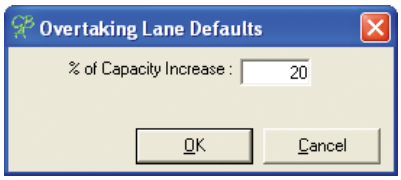
Note: Road roughness is displayed in NRM and can be converted from IRI using a simple conversion factor (see Appendix F of the *Technical Manual*).

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2.6.3 Overtaking lane defaults

CBA6 uses a default increase in capacity after construction of the overtaking lane. The design of the tool assumes that the downstream area has an increased capacity after construction of the overtaking lane. The system user can alter the default settings. See Section 4.4 for further information on the significance of the downstream area.

Figure 20: Overtaking lane defaults – downstream area



2.6.4 Sensitivity test parameters

CBA6 contains an inbuilt sensitivity analysis within the road case report. Sensitivity analysis provides the decision maker with alternative CBA6 results based on plausible changes to key parameters in the project data inputs. The sensitivity analysis alters the fixed parameters by a default percentage and reports the resulting changes. The fixed sensitivity paramaters and the default ranges are:

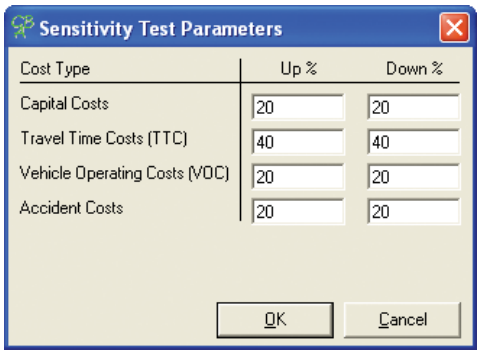
- Capital Costs ± 20%
- TTC ± 40%
- VOC ± 20%
- Accident Costs ± 20%

The system user may modify these ranges, using user options, to suit project-specific characteristics or to highlight the sensitivity of a particular input, e.g. capital.

As an example, TTC savings can be subject to more stringent sensitivity testing by setting the lower and upper bounds to 40%.

See Section 1.8.3 of the *Theoretical Guide* for further information on sensitivity testing.

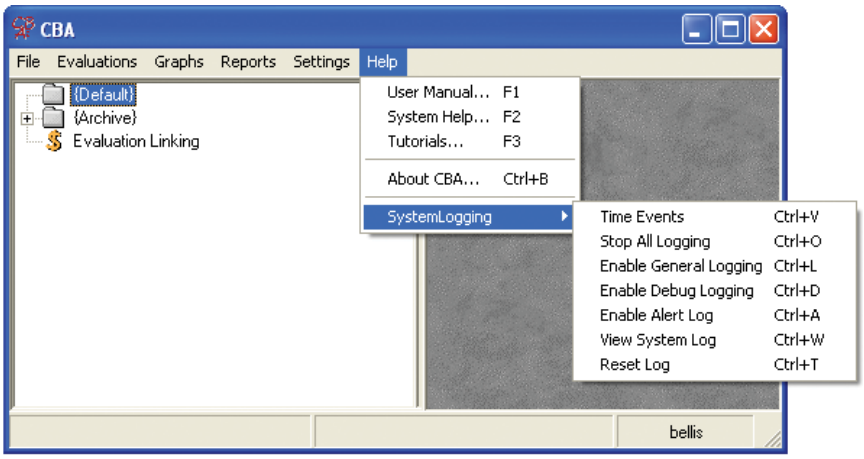
Figure 21: Sensitivity test parameters



2.7 Help menu

The help menu provides a link to the CBA6 help file. The help file contains theoretical help, system help and tutorial sections. The help menu also provides a system log which can be viewed and/or sent to the CBA Team for debugging purposes, see Figure 22.

Figure 22: CBA6 help menu



2.7.1 CBA6 help

CBA6 help is a free-flowing help file created in html format that gives basic guidance and advice from within CBA6, see Figure 23. As with most help files, CBA6 help facilitates a search function, allowing the user to search by keyword for their topic of interest. Access to the CBA6 help file is available through the CBA6 desktop interface, listed under the help menu, and can be accessed through the drop-down lists. Alternatively the help file can be accessed through keyboard shortcuts following the section layout as follows:

- F1 – economic evaluation of road investment proposals
- F2 – system help
- F3 – tutorials

The help file provides the user with multiple topics of interest including a brief overview of the background of CBA and its role in evaluating road project investment.

The system help provides the user with an overview of the basic operations of the CBA6 tool including creation of basic evaluation files and explanations of the functional operation.

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The tutorials section of the help file enables the user to follow systematic instructions on various types of projects available for evaluation in the CBA6 tool. Tutorials in the help file are also covered in Section 5.

Figure 23: CBA6 help

