SCATS Traffic Reporter 6.4.2.14 user manual

RTA-TC-266

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Notes

CONTENTS

1 Introduction

1.1 SCATS Traffic Reporter

SCATS Traffic Reporter is an intelligent transport systems (ITS) application that allows the retrieval and display of SCATS strategic monitor and detector count files.

1.2 About this user manual

This document contains:

- a general description of the application
- installation and configuration instructions
- a detailed description of the user interface elements
- instructions for the retrieval and display of strategic monitor and detector count data
- appendix with notes on data collection and storage

1.3 About strategic monitor files

The strategic monitor files record the dynamic data for all subsystems in a region. When the files are viewed in SCATS Traffic Reporter, the data may be viewed for one subsystem at a time as text or either of two different graphics formats. The strategic monitor displays show data for one day at a time.

Detailed information about the data stored in a strategic monitor file and its relevance to SCATS operation, may be found in RTA-TC-251 *SCATS operating instructions*.

1.4 About detector count files

The detector count files record detector counts for all sites in a region that have been configured for detector volume collection in SCATS Access. When the files are viewed in SCATS Traffic Reporter, the data may be viewed as a graph or in any of three text formats. You can select the interval used for displaying the detector counts (15, 30 or 60 minutes) and specify the site and allocation of detectors to approaches. It is possible to display the data for any number of days. SCATS Access can be opened directly from SCATS Traffic Reporter to facilitate the allocation of detectors to approaches.

Note that SCATS Traffic Reporter refers to detector counts as ‘traffic flows’, though technically, this is incorrect.

Notes

2 Installation and configuration

2.1 System requirements

2.1.1 Hardware requirements

The minimum hardware required to run SCATS Traffic Reporter is the same as that required to run the operating system. See the Microsoft® web site <www.microsoft.com> for details for your operating system. As a guide, the minimum required for Windows® XP is:

- 233 MHz central processing unit (CPU)
- 128 megabytes of random access memory (RAM)
- 1.5 gigabyte hard disk
- CD-ROM drive
- colour monitor with a resolution of 800 × 600 pixels
- SVGA graphics card
- keyboard
- pointing device such as a mouse, trackball or touch pad

A higher specification is highly recommended.

2.1.2 Operating system requirements

SCATS Traffic Reporter is compatible with Windows® 2000 or Windows® XP. It may run on other 32-bit versions of Windows®, but this has not been tested and is not supported by the Roads and Traffic Authority of New South Wales.

2.1.3 Other software requirements

SCATS Traffic Reporter requires the following versions of SCATS software:

- SCATS Central Manager version 6.6.1 or above (for licence validation)
- SCATS Access version 6.6.1 or above (for licence registration)

2.1.4 Licence requirements

SCATS Traffic Reporter now uses a dual ITS licence. The ITS client licence is built into the software. The ITS server licence must be obtained from your SCATS distributor or the Roads and Traffic Authority of New South Wales. The ITS server licence must be registered with the SCATS Central Manager, as described below, before SCATS Traffic Reporter will work.

2.2 Installation

Insert the installation CD into the CD drive. The installation wizard should start automatically. If it doesn't, double-click on **Setup.msi** in the root folder of the CD. Once the installation wizard has started, just follow the prompts.

2.3 Licence registration

SCATS Traffic Reporter is an ITS application. Before you can use it, your SCATS system administrator must configure the ITS port on the SCATS Central Manager and register SCATS Traffic Reporter's ITS server licence. The former is usually done during the initial installation and configuration of the SCATS Central Manager and only needs to be done once for all ITS applications.

To configure the ITS port on SCATS Central Manager

Enable the ITS port and set the port number as described in RTA-TC-328 *SCATS Central Manager Configuration user manual*.

To register SCATS Traffic Reporter as an ITS application on SCATS Central Manager

Note: You must have a SCATS account with access level 1 to complete this process.

1. Open the ITS Server Licence file in a text editor.
2. Run SCATS Access.
3. Choose **View** > **Licence**.

   The **Central Manager Licence** dialogue opens.
4. Make sure the **Licence name** in the **Central Manager Licence** dialogue is the same as the **Host** property in the ITS Server Licence file. If it isn't you cannot continue.
5. Click **Close** to close the **Central Manager Licence** dialogue.
6. Choose **Tools** > **Access**.

   The **User Access** dialogue opens.
7. Specify your **User ID**.

   Note: You must use an account that has access level 1, otherwise you cannot continue.
8. Enter your password in the **Password** text box.
9. Click **Logon**.
10. Click **Close** to close the **User Access** dialogue.
11. Choose **Tools** > **Configure**.

    The **Configuration** dialogue opens.
12. Click **ITS names**.

    The **ITS Names** dialogue opens.
13. Click **New**.
14. Copy the ITS licence name 'SCATS Traffic Reporter' from the **Name** property in your ITS Server Licence file and paste it into the **ITS name** text box in the **ITS Names** dialogue.

    Note: Versions of SCATS Traffic Reporter earlier than 6.4.2.14 used the ITS licence name of 'Roads and Traffic Authority Utility'. This will no longer work.
15. Copy the licence details from the **Licence** property in your ITS Server Licence file and paste it into the **Licence** text box in the **ITS Names** dialogue.

    Note: Versions of SCATS Traffic Reporter earlier than 6.4.2.14 did not need this information. SCATS Traffic Reporter will no longer work if the licence details are incorrect or left blank.
16. Enter the maximum number of connections up to the **Maximum Instances** property in your ITS Server Licence file.

17. Enter the number of reserved connections (normally 0).

    Note: Make sure the total number of reserved connections allocated to all ITS applications is less than or equal to the maximum number of connections permitted by your SCATS Central Manager licence.

18. Make sure **Enabled** is selected.
19. Click **Save**.
20. Click **Close** to close the **ITS Names** dialogue.
21. Click **Close** to close the **Configuration** dialogue.

2.4 ScatsTR.ini file

A configuration file named **ScatsTR.ini** is created in the same folder as SCATS Traffic Reporter when the program is closed. This file is automatically updated by SCATS Traffic Reporter and does not normally need to be modified by you.

2.5 ScatsTR.log file

A log file named **ScatsTR.log** is created in the same folder as SCATS Traffic Reporter when the program is opened. This records any start-up errors and can be used for trouble shooting if your configuration is incorrect.

2.6 Setting up the program

When SCATS Traffic Reporter is run for the first time it will automatically open the **Options** dialogue (shown in Figure 1) to specify the location of the SCATS Central Manager, the data files and SCATS Access. This is described in the following sections.

2.6.1 Options dialogue

Choose **File > Options** to open the **Options** dialogue.

In the **Options** dialogue, specify the shared name for the SCATS Regions and SCATS Central Manager, or the shared name path if the SCATS Central Manager and SCATS Regions are on the same machine.

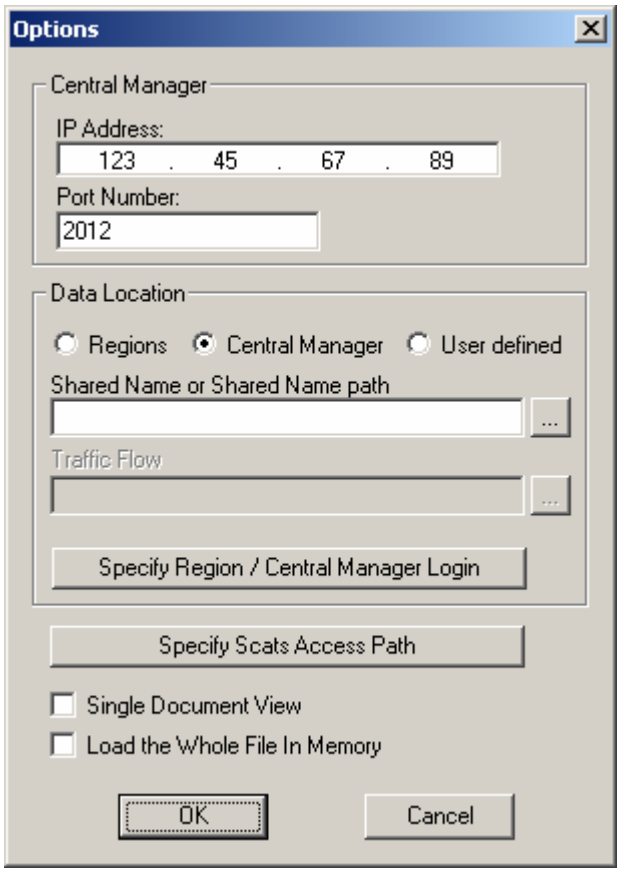

Figure 1: Options dialogue

2.6.2 Entering the SCATS Central Manager IP address or name

Enter the IP address of the SCATS Central Manager in the **IP Address** box in the **Options** dialogue. The port number is the ITS port that is specified by the SCATS system administrator. This is normally 2012.

2.6.3 Specifying the file locations

Use the radio buttons to specify the location of data files or click on the ellipsis button adjacent to the **Shared Name or Shared Name Path** to navigate to the relevant folder. If selecting **User Defined**, click on the ellipsis buttons adjacent to the **Strategic Monitor** and **Traffic Flow** boxes to navigate to the relevant folders.

Click **Specify Region / Central Manager Login** and enter the user name and password required for access to the SCATS Region or SCATS Central Manager. If there is a log on error, it will be noted in the **ScatsTR.log** file (see Section 2.5).

2.6.4 Specifying the SCATS Access path

Click **Specify Scats Access Path** in the **Options** dialogue to specify the location of SCATS Access. Click on the ellipsis button to navigate to the appropriate folder. An entry in the **Configure File** text box will be required if access to more than one SCATS network is available.

2.6.5 Selecting single document view

Select **Single Document View** in the **Options** dialogue to prevent the display of more than one document at a time.

2.6.6 Loading the whole file in memory

Select **Load the Whole File In Memory** to require full loading of data prior to display.

Notes

3 Controls

3.1 Title bar

The title bar shows the file from which the data has been extracted.

3.2 Status bar

The status bar (Figure 2), has three areas. To display or hide the status bar see Section 3.3.2.

Figure 2: Status bar

Left area This area changes with the type of display. For a graphical display, there are instructions for zooming in or out. For a text display there is an indication that the data is being read/selected, or if it is ready.

Centre area Indicates the type of data being displayed, i.e. strategic monitor or traffic flow.

Right area This area shows the filename of the data source.

3.3 Menu bar

3.3.1 File menu

Choose **File** to open the **File** menu (Figure 3).

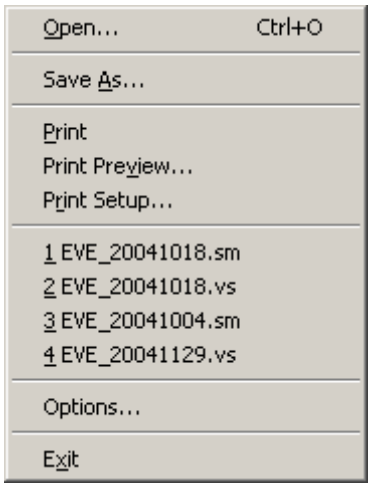

Figure 3: File menu

The menu items are described below.

Open Opens the **Data Selection** dialogue.

Save as Saves data, in either graphical or text form, to a separate file. The graphical display may also be placed on the clipboard for use in other Windows® applications.

Print Opens the **Print** dialogue. The default printer is identified.

Print Preview Replaces the contents of the active data window with a print preview.

Print Setup	Opens the **Print Setup** dialogue. Select the required printer and printing attributes.
Most recently used files	A list of the most recently used files. Click on a file name to re-open that file.
Options	Opens the **Options** dialogue.
Exit	Closes all files, saves the current configuration and closes SCATS Traffic Reporter.

3.3.2 View menu

Choose **View** to open the **View** menu (Figure 4).

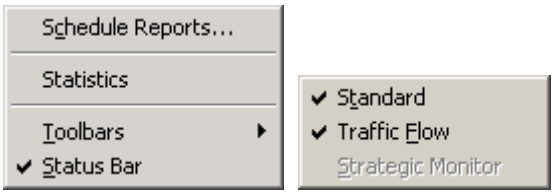

Figure 4: View menu and submenu

The menu items are described below.

Schedule Reports	Opens the **Scheduled Reports** dialogue.
Statistics	Opens the **Statistics** dialogue.
Toolbars > Standard	Toggles the standard toolbar on or off.
Toolbars > Traffic Flow	Toggles the traffic flow toolbar on or off.
Toolbars > Strategic Monitor	Toggles the strategic monitor toolbar on or off.
Status Bar	Toggles the status bar on or off.

3.3.3 Window menu

Choose **Window** to open the **Window** menu (Figure 5).

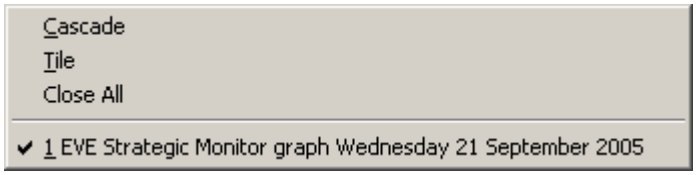

Figure 5: Window menu

The menu items are described below.

Cascade	Redraws all the data windows so that they overlay one another like a stack of cards. To return to a single-window display, maximise one of the data windows.
Tile	Redraws all the data windows so that they are tiled within the available space on the main window. To return to a single-window display, maximise one of the data windows.
Close All	Closes all of the data windows.
List of open files	List of the data windows that are currently open, including their region, type of data, type of display, date and site, as appropriate. Choose a data window to make that the active data window. If the window is currently minimised, it will be restored or

maximised to its previous state.

3.3.4 Help menu

Choose **Help** to open the **Help** menu (Figure 6).

Figure 6: Help menu

The menu items are described below.

About SCATS Traffic Reporter	Opens the **SCATS Traffic Reporter** dialogue to show details of the version and copyright details.

3.4 Toolbars

For instructions on displaying and hiding the toolbars see Section 3.3.2. See the figures below for identification of the toolbar buttons.

Figure 7: Standard toolbar

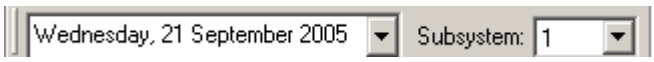

Figure 8: Strategic monitor toolbar

Figure 9: Traffic flow toolbar

3.4.1 Open button

Opens the **Data Selection** dialogue so that you can select a different file type, different region or different date.

3.4.2 Save As button

Opens a file selector so that you can save the current data to a file. The file format that you can use depends on the type of display. Graphs can be saved as Windows® bitmap (bmp), Windows® metafile (wmf), Windows® enhanced metafile (emf) or Joint Photographic Experts Group bitmap (jpg) files. Text displays can be saved as plain text (txt) or tab-delimited text (txt) files.

3.4.3 Print button

Opens the **Print** dialogue so that you can print the display in the active data window.

3.4.4 Print Preview button

Replaces the contents of the active data window with a print preview. The format of the print preview and the controls in the window vary depending on whether the active data window contained text or graphics.

3.4.5 Change View button

Opens the **Strategic Monitor Selection** dialogue or the **Traffic Flow Selection** dialogue, depending on the active data window. This allows you to modify the current display or select an additional display of the same data in a different format. The different **Change View** options for traffic flow and each of the strategic monitor display formats are described below.

3.4.5.1 Using Change View with traffic flow displays

Use **Change View** to reapply the current data to one of the other formats. Only one text format can be viewed at a time.

When you click **Change View**, the **Traffic Flow Selection** dialogue opens (Figure 28). Select another format and click **OK**. You can choose how to display each window (separately, cascading or tiled) using the **Window** menu.

3.4.5.2 Using Change View with strategic monitor text displays

Use **Change View** to open the **Strategic Monitor Selection** dialogue (Figure 20). Extra subsystems may be added using this dialogue. All the data will be displayed in the same window.

3.4.5.3 Using Change View with strategic monitor system data displays

Use **Change View** to open the **Strategic Monitor Selection** dialogue (Figure 20). Use the dialogue to change the active subsystem. Only one window is shown at a time. Once the window is displayed, you can change the active subsystem using the **Subsystem** drop-down list in the strategic monitor toolbar.

3.4.5.4 Using Change View with strategic monitor strategic data displays

Use **Change View** to open the **Strategic Data Graphic Selections** dialogue (Figure 25). Enter the details of the different subsystems, sites, strategic approaches or links, and types of data to display on the graphs and click **OK**. The additional data will be displayed simultaneously, either in the same graph or on another graph in the same window. If you want to change the type of display, click the **Change View** button to open the **Strategic Monitor Selection** dialogue.

3.4.6 Save scheduled report

The **Save Scheduled Report** button allows you to schedule the preparation of a report, using the current settings, for a specified number of days prior to the current date.

Selecting the **Save Scheduled Report** button registers the settings of the active window in the **Scheduled Reports** dialogue. Entry of the selected report is indicated by a confirmation message (Figure 10).

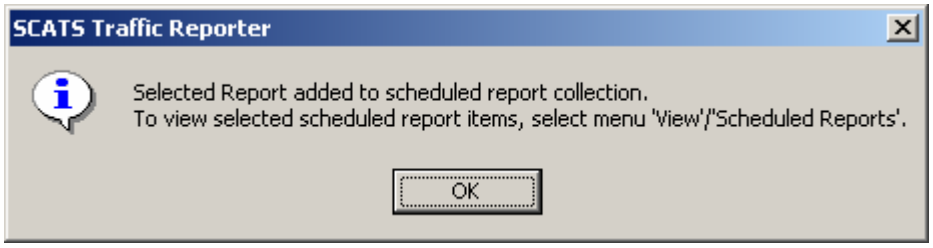

Figure 10: Confirmation message when scheduled report successfully added

To view the settings in the **Scheduled Reports** dialogue choose **View > Scheduled Reports**.

3.4.6.1 Scheduled Reports dialogue

Note: The running of scheduled reports does not work properly in this version of SCATS Traffic Reporter, so the following notes are for reference only.

Choose **View** > **Scheduled Reports** to open the **Scheduled Reports** dialogue.

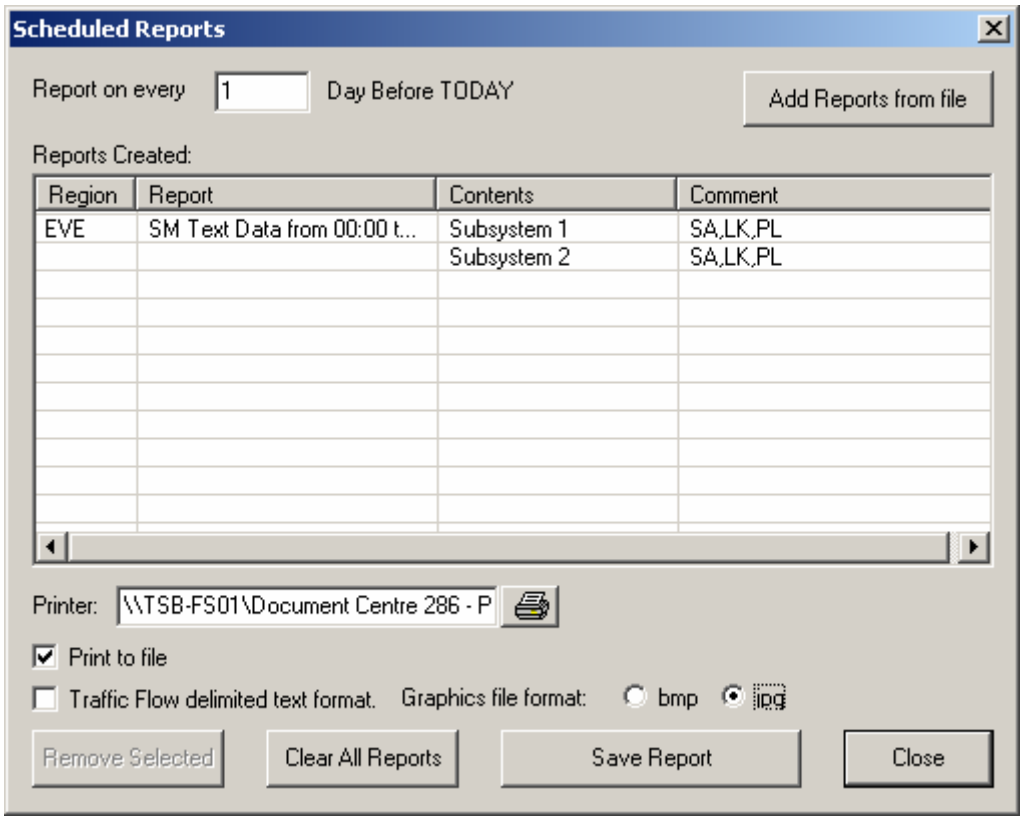

Figure 11: Scheduled Reports dialogue

Report on every Day Before TODAY — The number of days before today from which to start the reports. Specify any number of days (limited by data records). Note that for traffic flows, you can only get single-day reports.

Add Reports from file — Navigate to a data file.

Reports Created — Records the settings that were current when the **Save Scheduled Reports** button was clicked.

Region — SCATS Region.

Report — The type of report.

Contents — The coverage of the report, i.e. subsystem, subsystem and site, or site and interval, depending on the type of report.

Comment — When text data is displayed, all three data values (strategic approach data, link data and phase data) are selected by default. Select between these by deleting/entering SA, LK or PL as desired. When strategic data is displayed, the comment will indicate the approach and displayed value. When system data is displayed the words **No Phase Split** will be shown.

Printer — Contains the details of the default printer. Click on the printer button to open the

Print dialogue.

Print to file Saves the scheduled report to a file. The file name uses the following file naming convention:

- *yyyymmdd***VS_***n***.txt** for traffic flow text files
- *yyyymmdd***VS_***n***.jpg** or *yyyymmdd***VS_***n***.bmp** for traffic flow graphic files
- *yyyymmdd***SM_***n***.txt** for strategic monitor text files
- *yyyymmdd***SMchart_***n***.jpg** or *yyyymmdd***SMchart_***n***.bmp** for strategic monitor graphic files

Traffic Flow delimited text format Select this option to save traffic flow text displays in delimited text format.

Graphics file format Use the radio buttons to choose between Windows® bitmap (bmp) and Joint Photographic Experts Group (jpg) format.

Remove Selected Deletes the selected entries from the **Reports Created** list.

Clear All Reports Deletes all the entries from the **Reports Created** list.

Save Report Opens a file selector to let you save the report settings to a file.

Close Closes the **Scheduled Reports** dialogue and return to the active window.

3.4.7 Stop reading or resume reading

Click the **Stop** button to pause the loading of a data file. This button is enabled only when **Load the Whole File In Memory** is not selected in the **Options** dialogue. Sometimes the data will be read so quickly that this feature will not be applicable.

Click the **Continue** button to resume loading the file after it has been paused.

3.4.8 Date and site/subsystem combo boxes and data interval box

When the strategic monitor toolbar is shown (Figure 8), there will be two drop-down lists. When the traffic flow toolbar is shown, there will be three drop-down lists (Figure 9). These are:

Date The first date of the displayed data

Subsystem Subsystem number (for strategic monitor system data only)

Site Site number (for traffic flow only)

Interval Counting interval (15, 30 or 60 minutes) (for traffic flow only)

3.4.9 Choosing a different date while a display is already open

Click the drop-down button to the right of the **Date** to open the drop-down calendar (Figure 12). You can change the month and year by clicking one of the arrow buttons on either side of the calendar, clicking on the month and choosing a month from the shortcut menu or clicking on the year and specifying a year in the spin box. Click on the required day. The calendar will close and the new data will be displayed. This method only allows the selection of data for a single day.

Figure 12: Drop-down calendar

3.4.10 Copy and paste

To copy a text display to the clipboard, select the text and press Ctrl+C. To copy a graphic display, just press Ctrl+C. You can now paste the clipboard contents into other applications such as Microsoft® Word.

When copying a graphic display, a header is placed at the top of the graph and you can only paste it as a bitmap (Figure 13).

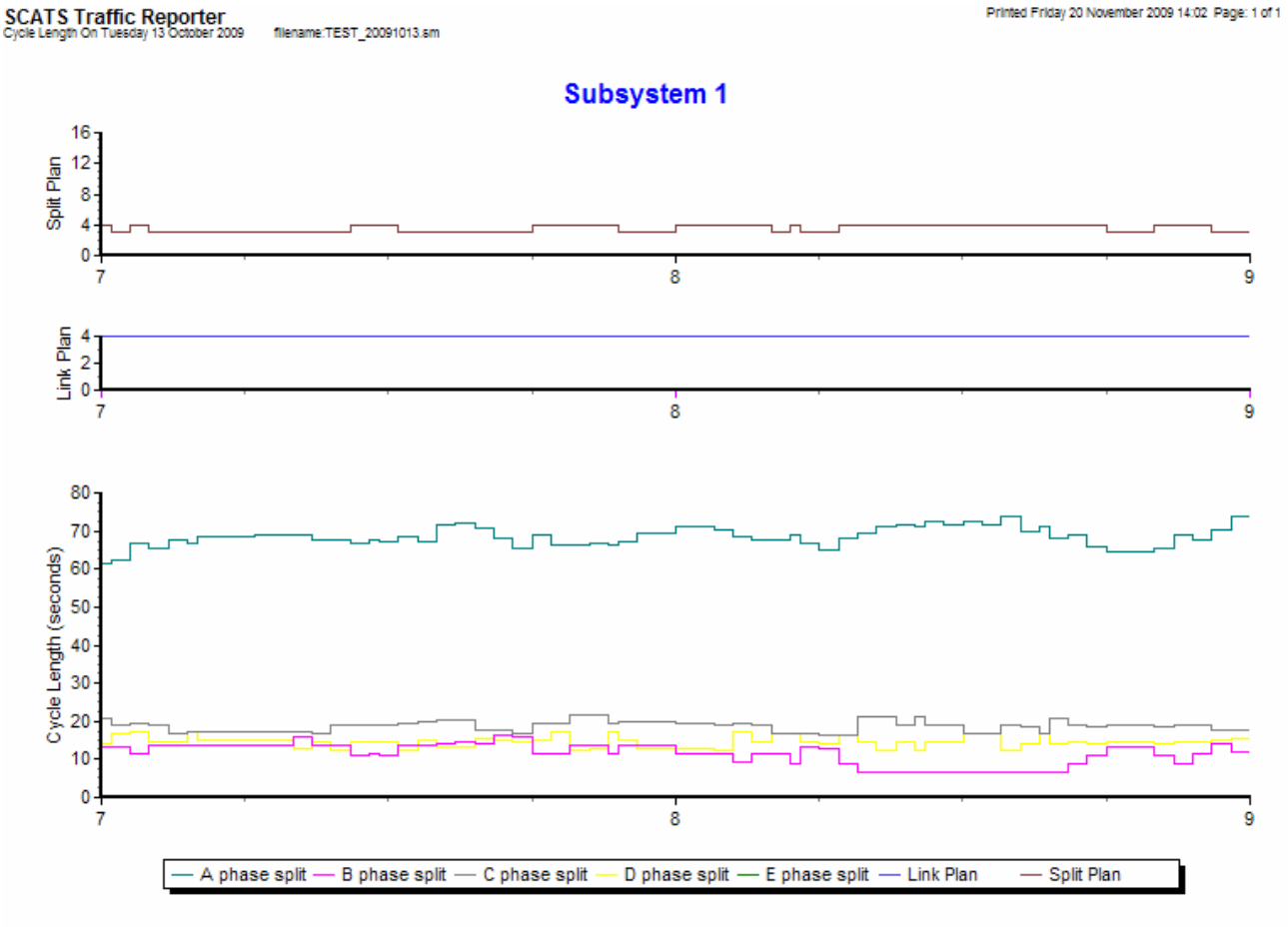

Figure 13: Sample of pasted graphic

3.5 Graphical display features

3.5.1 Obtaining a numerical value for a point on a graph

Click on a point on a graph to open a detail dialogue (Figure 14) with the value of the point closest to where you clicked.

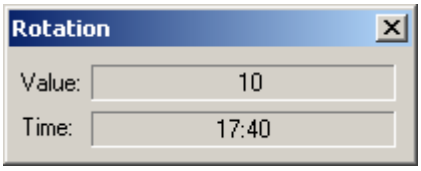

Figure 14: Detail dialogue

3.5.2 Zooming

Zoom in to a graphical display by dragging the cursor down and to the right. Zoom out by doing the reverse.

3.5.3 Configuring display properties

Double click on the background to open the **Edit Series** dialogue (Figure 15). Select or clear a checkbox to turn a graph on or off respectively. Graphs with no data are not shown in the legend or the **Edit Series** dialogue.

To change the colour of a graph, move the mouse pointer over the colour swatch and double-click to open the **Color** dialogue. Select the desired colour and click **OK**.

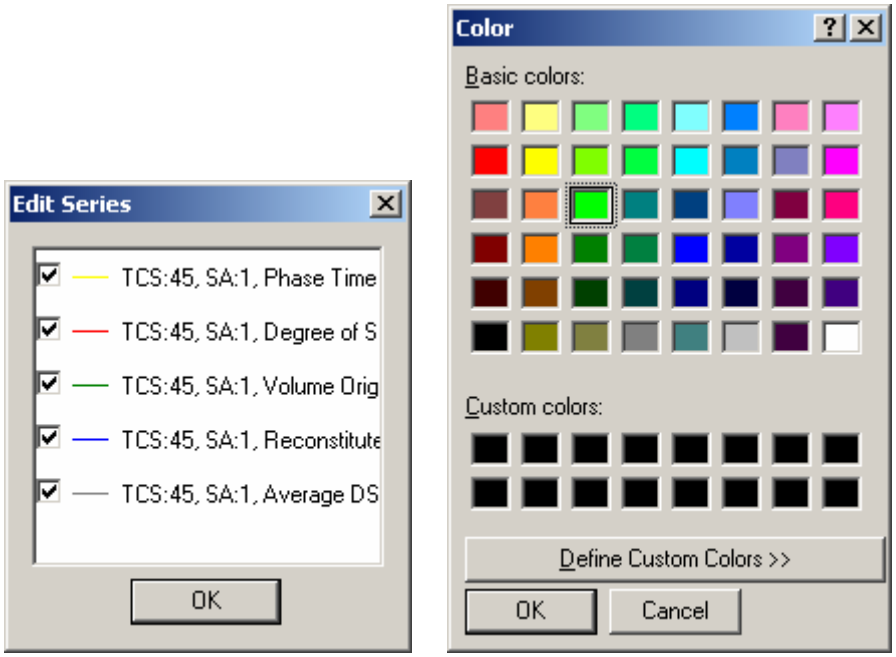

Figure 15: Edit Series dialogue (left) and Color dialogue (right)

3.6 Warnings and error messages

If an error occurs when you try to open a data file, a warning or error message appears. These are described below.

3.6.1 Data for some dates missing

There is a period between the nominated start and end dates for which data is not available. Click **OK** to continue to load the data that is available (Figure 16).

Figure 16: Data for part of selected period is missing (left) and no data found for selected period (right)

3.6.2 No data found for the selected period

There is no data for the selected period stored on the file (Figure 16). Check your entries or change the period.

3.6.3 No connection to SCATS Central Manager

Failure to connect to the SCATS Central Manager (Figure 17) may be due to an incorrectly entered IP address and/or port number (see Section 2.6.2).

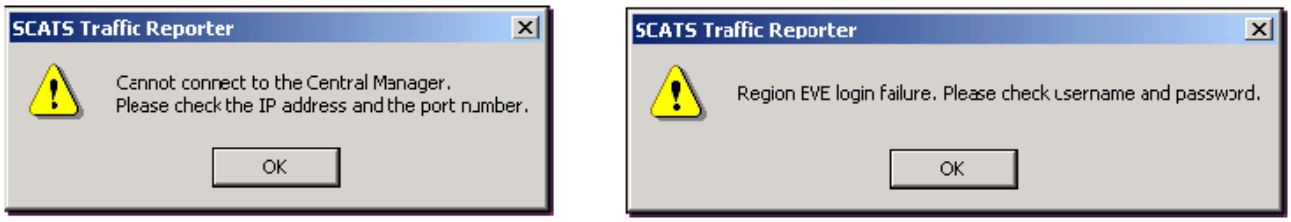

Figure 17: Failure to connect to SCATS Central Manager (left) and SCATS Region log-on failure (right)

3.6.4 SCATS Region login failure

There has been a SCATS Region log-on failure. Check the username and password specified for logging on to the SCATS Central Manager and SCATS Region as specified from the **Options** dialogue.

Notes

4 Opening SCATS Traffic Reporter

Start SCATS Traffic Reporter by clicking on the desktop shortcut or by clicking the **Start** button in the Windows® task bar and choosing **Programs** > **SCATS** > **SCATS Traffic Reporter**. The main window opens and then the **Data Selection** dialogue opens. (To open the **Data Selection** dialogue at other times, click the **Open** button as described in Section 3.4.1.) The toolbar and status bar are shown by default. To hide and show the toolbar and status bar, see Section 3.3.2.

The **Data Selection** dialogue is modal, so the main window's menu bar and toolbars are disabled while the **Data Selection** dialogue is open.

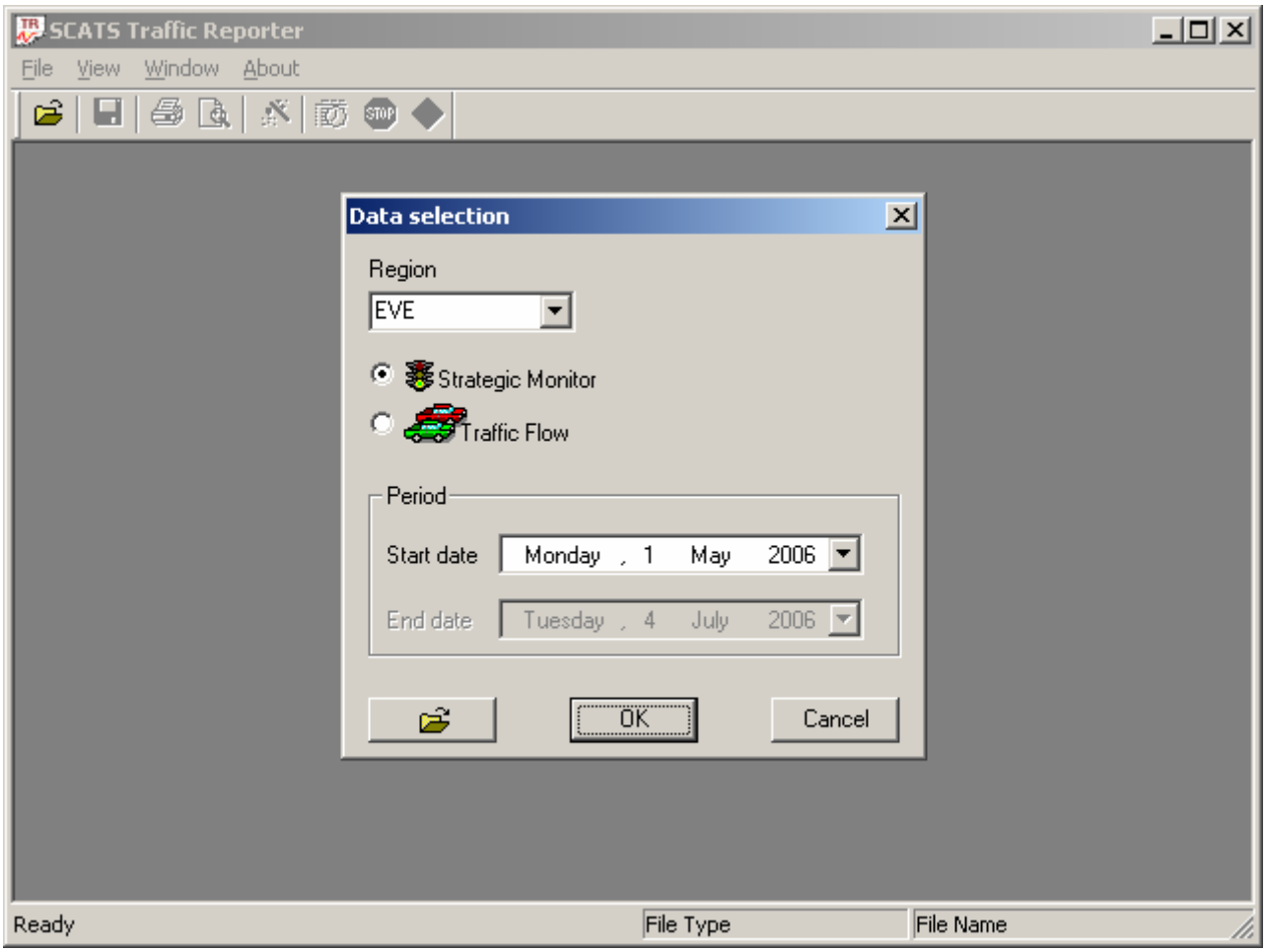

Figure 18: Main window, with Data Selection dialogue

4.1.1 Creating a data display

Opening a strategic monitor or traffic flow data display commences by entering the required information in the **Data Selection** dialogue. When finished, click **OK** to continue with the loading and display of data based on the current properties or click **Cancel** to close the dialogue without making any selection.

The **Strategic Monitor Selection** dialogue will open if **Strategic Monitor** is selected and the **Traffic Flow Selection** dialogue will open if **Traffic Flow** is selected.

The elements of the **Data Selection** dialogue are described below.

4.1.1.1 Selecting strategic monitor or traffic flow

Use the radio buttons to select **Strategic Monitor** or **Traffic Flow**.

4.1.1.2 Selecting a region

Select from the **Region** drop-down list in the **Data Selection** dialogue (Figure 19).

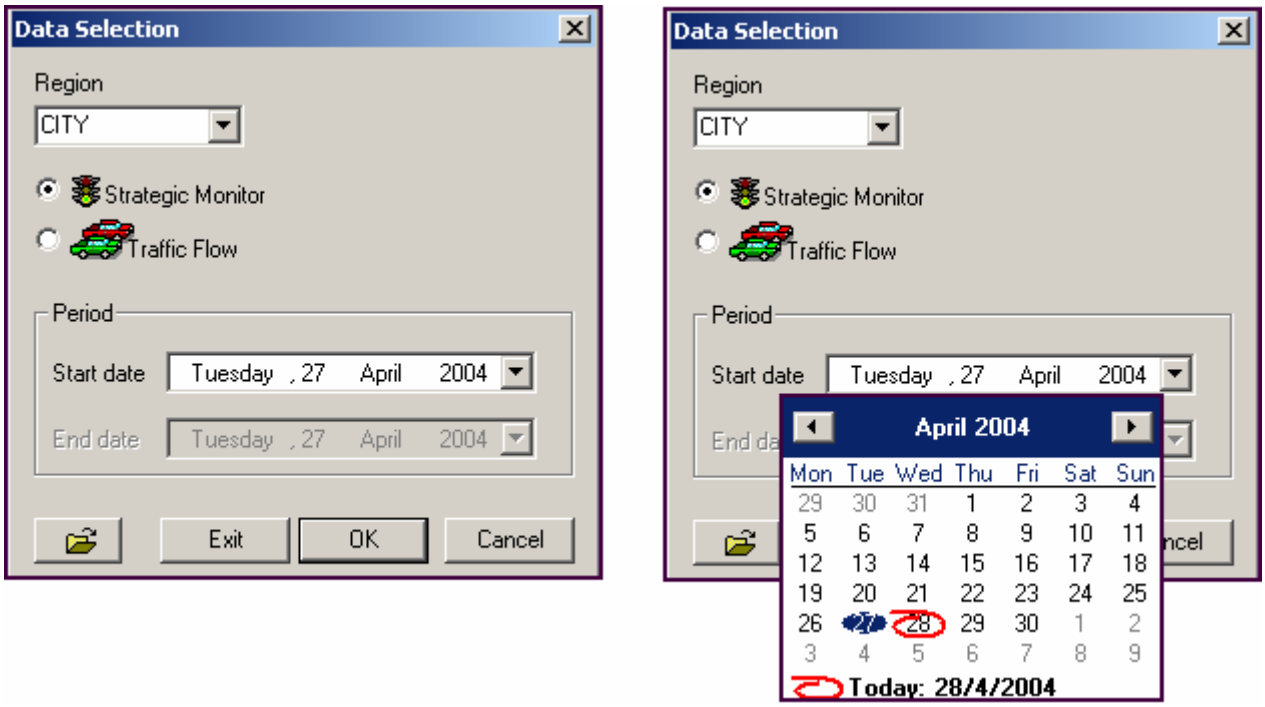

Figure 19: Data Selection dialogue (left) and with drop-down calendar open (right)

4.1.1.3 Specifying the time period

There are two ways of entering the required date period from the **Data Selection** dialogue:

- Select the day, month or year in the **Start date** or **End date** boxes and scroll to the desired date by pressing the up or down arrows on the keyboard. Move between day, month and year by pressing the left and right arrows on the keyboard.
- Click the drop-down arrow to the right of the **Start date** or **End date** box to show the drop-down calendar (Figure 19). Click the required date on the calendar or scroll through the days by pressing the left and right arrows on the keyboard or scroll through the weeks by pressing the up and down arrows on the keyboard. If using the keyboard, press **Enter** to accept the currently selected date or press **Esc** to close the calendar without changing the date.

Note that if you select **Strategic Monitor**, the **End date** is disabled, as this type of data is only loaded for one day at a time.

4.1.1.4 Selecting a non-default data source

Click  to open a file selector and browse to a file that is not in the data location specified in the **Options** dialogue.

5 Strategic monitor data

5.1 Types of strategic monitor display

Strategic monitor data may be displayed in the following three formats.

Text	Data presented in blocks of text for each selected subsystem for each cycle.
System Data	Simultaneous graphical display in a single window of split plan, link plan, cycle length and marriage status.
Strategic Data	Graphs any combination of dynamic data, such as phase time or degree of saturation, either in the same or separate windows.

5.2 Specifying the strategic monitor display

Select **Strategic Monitor** in the **Data Selection** dialogue to open the **Strategic Monitor Selection** dialogue (Figure 20).

When the **Strategic Monitor Selection** dialogue is open, specify the data that you want to view as described in the following subsections, then click **OK** to load and display the specified data or **Cancel to c**lose the dialogue without making any changes.

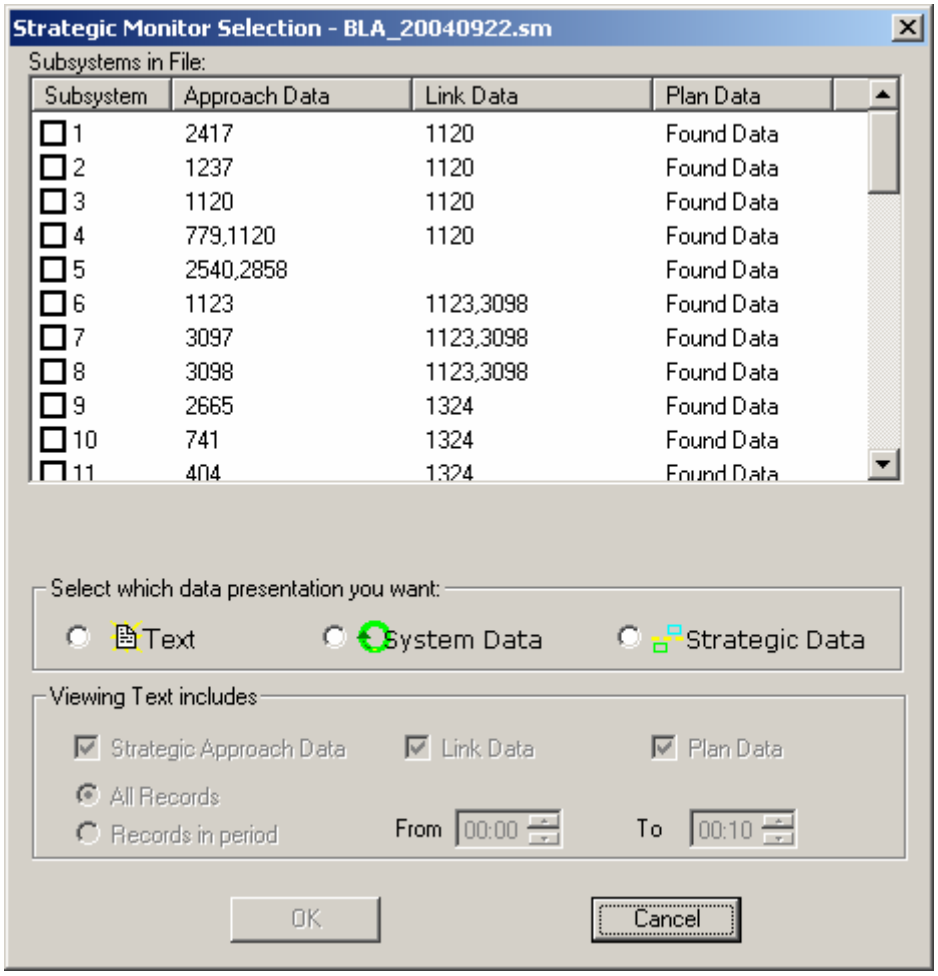

Figure 20: Strategic Monitor Selection dialogue

5.2.1 Selecting a subsystem

The subsystems in the specified file are shown in numerical order in the list in the upper half of the **Strategic Monitor Selection** dialogue. The second and third columns list the sites for which strategic approach data and link data are available. The fourth column specifies whether plan data is available.

Select the subsystems to be displayed using the checkbox adjacent to the subsystem number.

5.2.2 Choosing between text, system data and strategic data

Use the radio buttons in the **Strategic Monitor Selection** dialogue to select how you want the data displayed. If **Text** is selected, the **Viewing Text includes** area is enabled. Use this area to select the type of data to display. Note the 'plan data' is actually 'phase data' as described in RTA-TC-251 *SCATS operating instructions*.

Select **All Records** to include all available data from the whole 24-hour period. When this is selected, the **From** and **To** spin boxes will be disabled and show the full 24-hour period.

Select **Records in period** to specify a particular time period. This will enable the **From** and **To** spin boxes. Use the spin boxes to specify the start and end of the desired time period.

5.3 Strategic monitor text display

5.3.1 Text display options

The strategic monitor text display options display the following data:

Strategic Approach Data	Header, column headings and data for strategic approaches (indicated by 'SA' adjacent to the site number).
Link Data	Header, column headings and data for links (indicated by 'LK' adjacent to the site number).
Plan Data	Header and phase data.

5.3.2 Strategic monitor text format

The format of the strategic monitor text display is the same as that used in SCATS Access. See RTA-TC-251 *SCATS operating instructions* for a full description of the format.

5.4 Strategic monitor system data graphs

5.4.1 Overview of system data graphs

The strategic monitor system data graphs show seven types of data for the selected subsystem over a 24-hour period. By default, up to six types of data are displayed in the data window simultaneously. A seventh type is optional. Any data that does not exist is not shown.

5.4.2 Layout of the system data display

The region, type of data and date is shown in the data window's title bar. The date and subsystem number are shown in the strategic monitor toolbar (if displayed). You can use the toolbar to change the date and subsystem.

A legend below the graphs shows which colour represents each variable. All the graphs except phase split are shown in Figure 21 below.

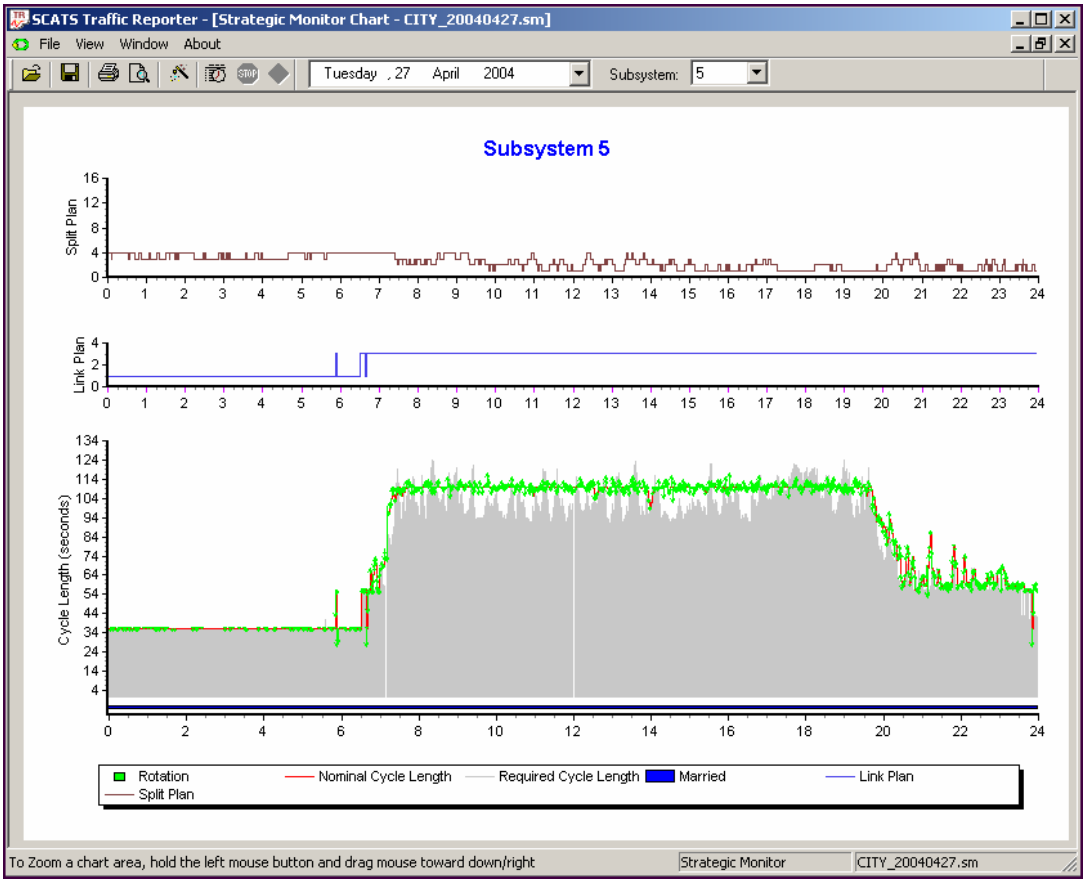

Figure 21: System Data window

5.4.3 Types of data displayed by system data

Split plan Shows changes in the subsystem's split plan over the 24-hour period.

Link plan Shows changes in the subsystem's link plan over the 24-hour period.

Rotation Shows the adjustments to cycle length needed to synchronise offsets.

Nominal Cycle Length Shows the cycle length that should run without the effects of rotation.

Required Cycle Length Shows the cycle length that the subsystem would have chosen to run had it not been forced to adopt a common cycle length with another subsystem due to a marriage.

Married Shows the link status as a line graph adjacent to the horizontal axis of the cycle length graph. The link status is indicated by the colour of the line as follows:

- Blue: The subsystem is married, i.e. linked to another subsystem.
- Red: The subsystem is married and the marriage is locked.

- Ochre: The subsystem is in fallback.

Phase splits The required cycle length is divided into the allocation for each of the phases over the period. The available options for this display are described in Section 5.4.4.

5.4.4 Selecting and viewing the system data phase split display

The phases may be displayed cumulatively or non-cumulatively. In this context, 'cumulatively' means the total of all the phases in the cycle and 'non-cumulatively' means each phase is treated independently. In both cases, the timing for each phase can be shown as phase times (an absolute value in seconds) or phase splits (a relative value as a percentage of the cycle length). Each of the four types is illustrated in Figure 22.

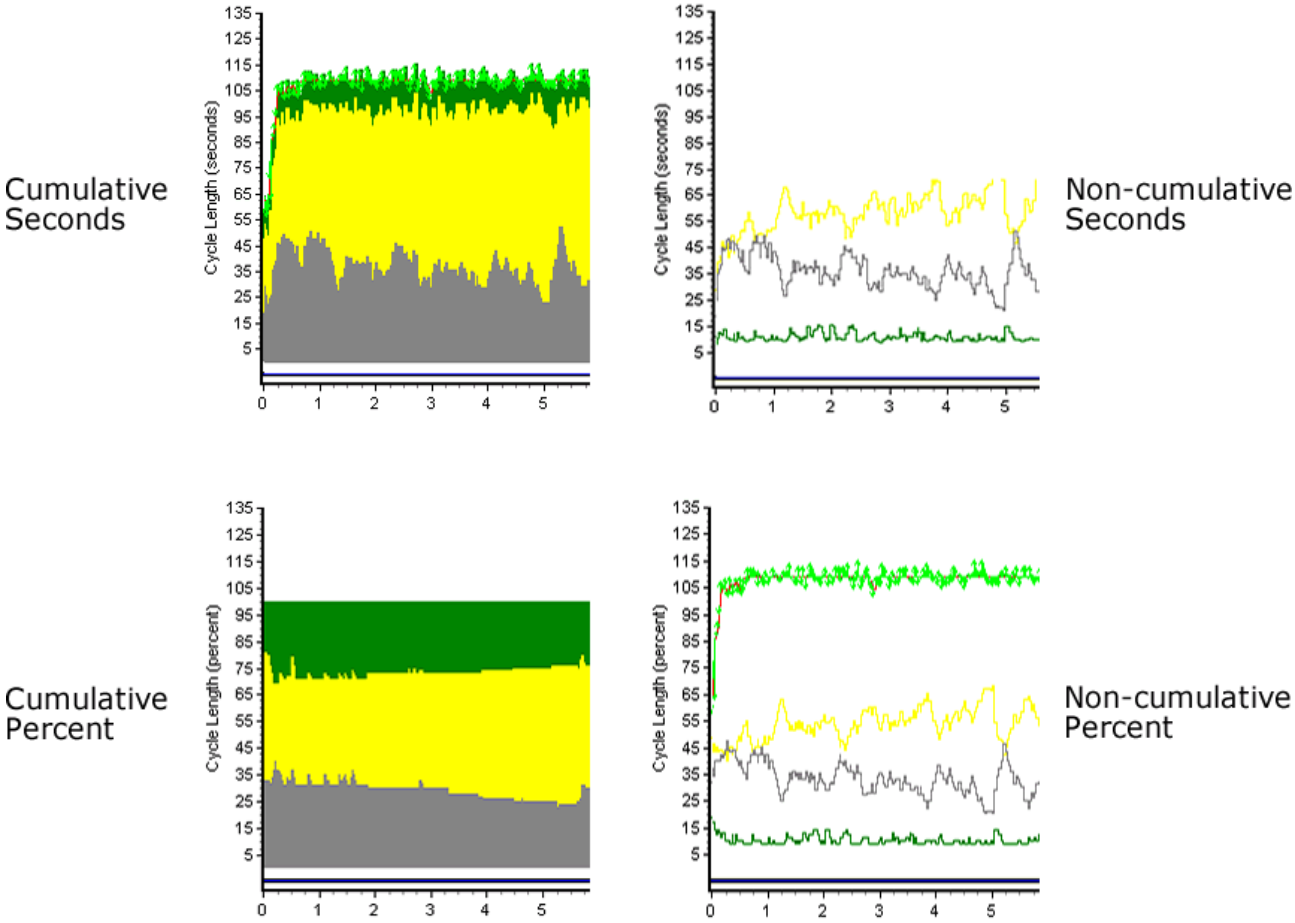

Figure 22: Phase graphs. Note that the cumulative seconds and non-cumulative percent graphs also show cycle length and rotation in the graph

To change the type of graph to display, right-click anywhere in the data window and choose the type of graph from the shortcut menu as shown in Figure 23.

Figure 23: System data shortcut menu showing selection of Cumulative Phase Split > Percent

5.5 Strategic monitor: Strategic data

5.5.1 Overview of strategic data

Strategic data allows you to see a history of dynamic data for a selected approach. More than one type of data can be shown simultaneously. This may be done for any of a range of values for an approach, and for any number of approaches over any number of sites.

The legend below the graphs shows the data represented by each colour.

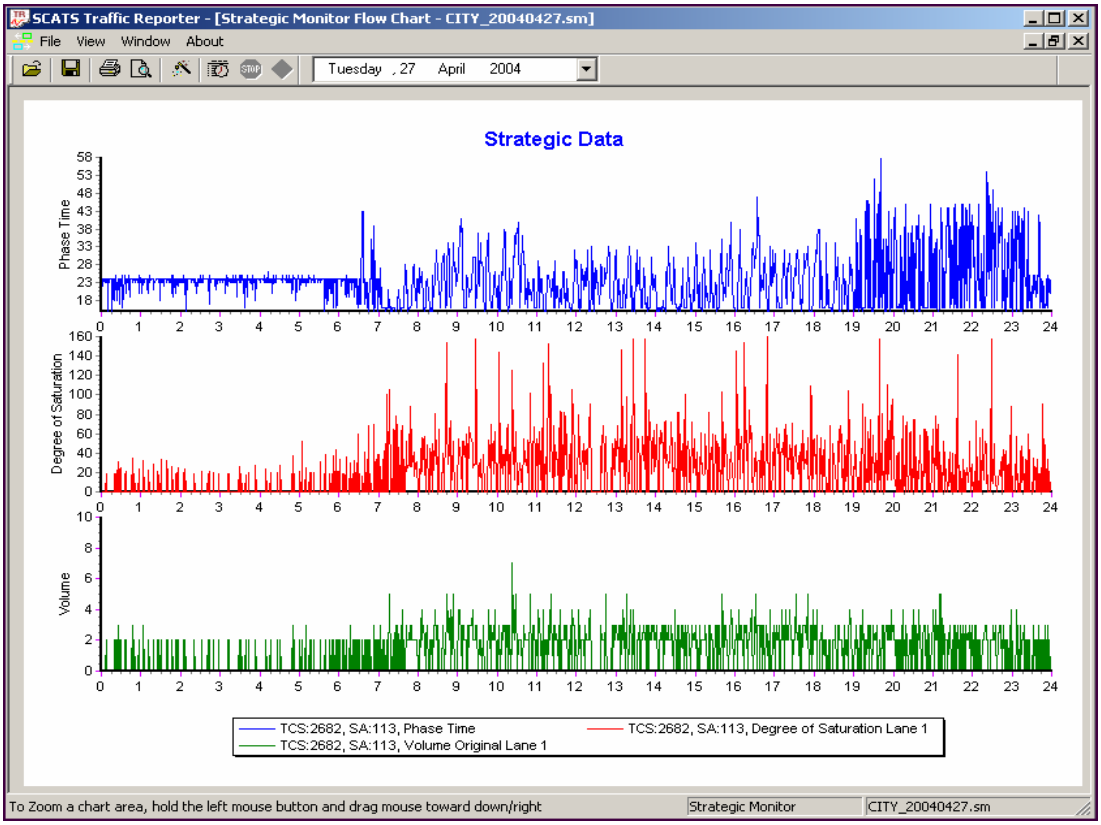

Figure 24: Strategic data display

5.5.2 Specifying a strategic data display

Open the strategic data display (Figure 24) by selecting **Strategic Data** in the **Strategic Monitor Selection** dialogue. The **Strategic Data Graphic Selections** dialogue (Figure 25) will open. Use this dialogue, as described in the following subsections, to specify each graph. When the details for a graph have been specified, click **Add Series**. The selection will be added to the list in the lower part of the dialogue. Repeat the above steps to specify other graphs to be displayed simultaneously.

Click one of the following when you have finished entering data.

Change View Opens the **Strategic Monitor Selection** dialogue.

OK Shows the specified graphs.

Cancel Opens the **Strategic Monitor Selection** dialogue.

5.5.2.1 Choosing the subsystem and site

Choose a subsystem for a strategic data display with the **Select Subsystem** drop-down list in the **Strategic Data Graphic Selections** dialogue. The list contains every subsystem in the region. Select the site number from the **Select Site** drop-down list. Only sites that have a strategic approach or link in the selected subsystem are listed.

5.5.2.2 Choosing an approach

Choose a strategic approach or link from the **Include** area in the **Strategic Data Graphic Selections** dialogue. The **Strategic Approach** option is enabled if the selected site has one or more strategic approaches. The **Link Data** option is enabled if the selected site has one or more link**s**. Use the relevant drop-down list to select the required strategic approach or link.

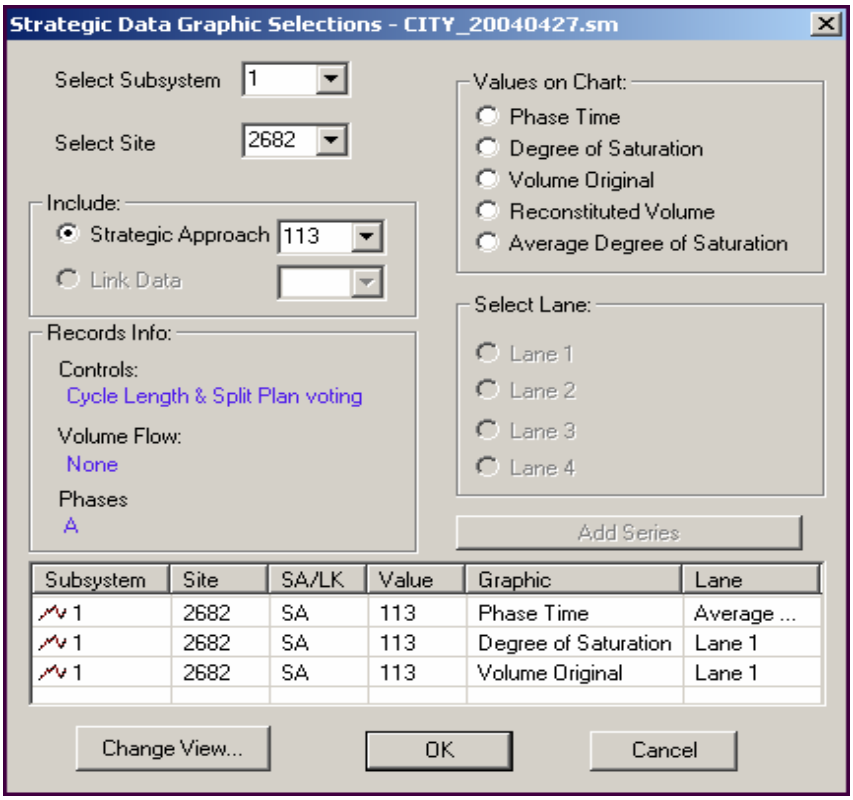

Figure 25: Strategic Data Graphic Selections dialogue, showing selection list

5.5.2.3 Selecting the dynamic data

Select a radio button in the **Values on Graph** area in the **Strategic Data Graphic Selections** dialogue to choose the data to be graphed. The **Select Lane** area is enabled when **Degree of Saturation**, **Volume Original** or **Reconstituted Volume** are selected.

5.5.2.4 Selecting the lane

If the **Select Lane** are is enabled in the **Strategic Data Graphic Selections** dialogue, select the radio button for the relevant lane.

5.5.2.5 Adding a data series to the selection list

Click **Add Series** in the **Strategic Data Graphic Selections** dialogue to add the current definition of a graph to the list.

5.6 Strategic monitor: Statistics

Choose **View** > **Statistics** to see statistics on cycle lengths, average splits and the number of times that link plans and subsystem plans were chosen for the current selection.

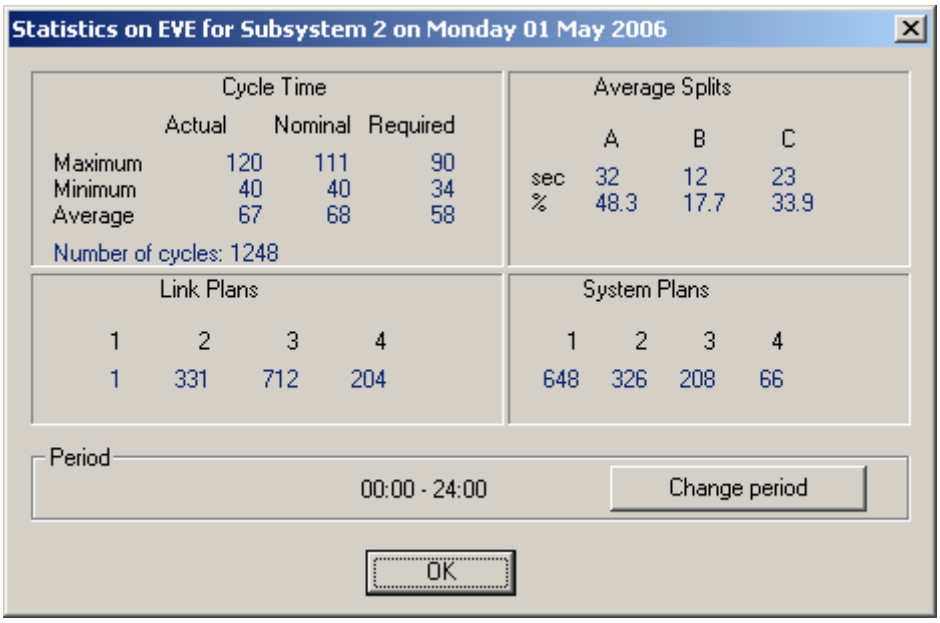

Figure 26: Strategic monitor statistics for selected subsystem

Click **Change period** to view the statistics for a different time period.

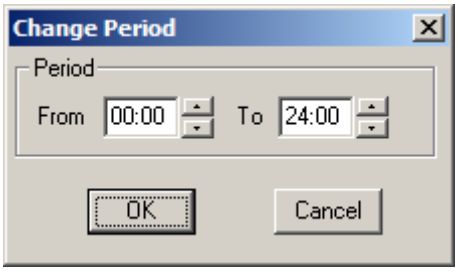

Figure 27: Change period dialogue

Notes

6 Viewing traffic flow data

6.1 Specifying the traffic flow display

Select **Traffic Flow** in the **Data Selection** dialogue to open the **Traffic Flow Selection** dialogue (Figure 28). Use this dialogue to specify the required data as described in the subsections below. Opening SCATS Access by clicking **Launch Scats Access** may facilitate the identification of the desired approaches at the selected site.

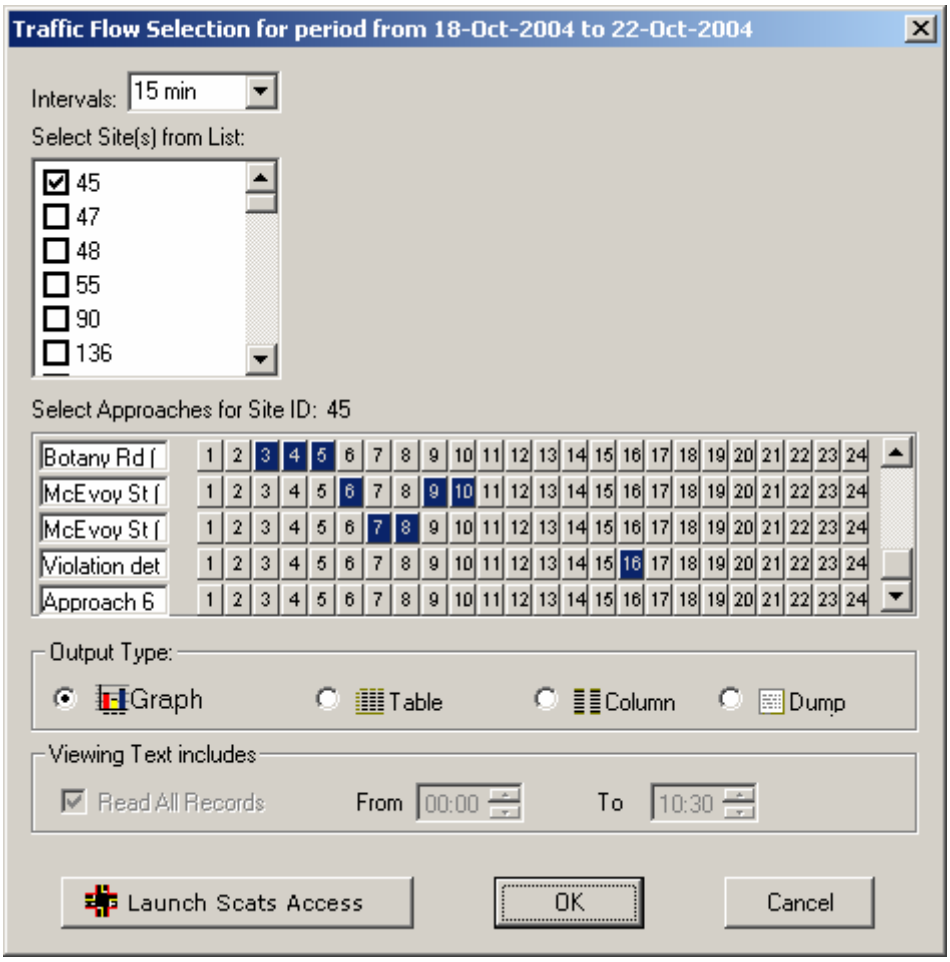

Figure 28: Traffic Flow Selection dialogue

6.1.1 Selecting the data display interval

Select a data display interval using the **Interval** drop-down list near the top of the **Traffic Flow Selection** dialogue. 15-minute, 30-minute and 1-hour intervals are available.

6.1.2 Selecting sites and approaches

Select a site in the **Select Site(s) from List**. Selecting a site enables the **Select Approaches for Site ID** area. Select one or more detectors from the first approach and optionally rename the approach. When the first detector is selected, the next approach is added. Use **Ctrl**+click to select or deselect all detectors in the same line.

6.1.3 Output type

Use the radio buttons to select the type of display in the **Output Type** area. If **Dump** is selected, the **Viewing Text includes** area is enabled to allow the selection of a time range.

6.1.3.1 Selecting a time range for the dump display

In the **Viewing Text includes** area, specify a range with the **From** and **To** spin boxes or select the **Read All Records** check box to display all the records for the day.

6.2 Traffic flow graphical display

The traffic flow graphical display plots the detector counts (per data interval for each of the selected approaches) against the time of day. Multiple sites may be selected, but only one can be displayed at a time.

6.2.1 Switching between sites on the traffic flow graphical display

Switch the display between sites selected in the **Traffic Flow Selection** dialogue with the **Site** drop-down list in the traffic flow toolbar.

6.2.2 Viewing the data in the legend box

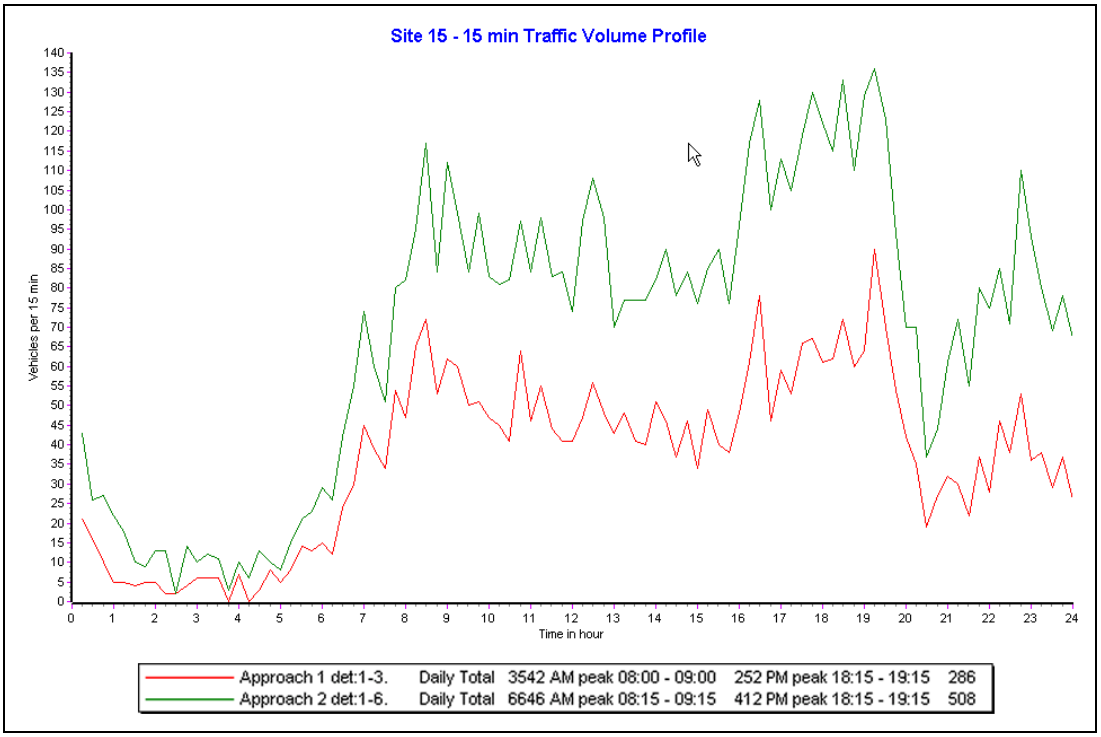

Figure 29: Traffic flow graphical display

A legend below the graph shows the following information:

- the approach represented by each colour in the graph
- the detectors in each approach

This additional information will be shown if the data is being displayed for only one day:

- the daily total for each approach

- the a.m. and p.m. peak hour for each approach
- the detector count for each of the peak hours

6.3 Traffic flow text display

This section describes the layout of the three types of text display.

6.3.1 Traffic flow table display

Each approach is shown separately and is divided into blocks for the a.m. and p.m. peaks. Detector counts are provided for:

- each 15, 30 or 60-minute interval over the selected period
- hourly totals
- a.m. and p.m. peaks

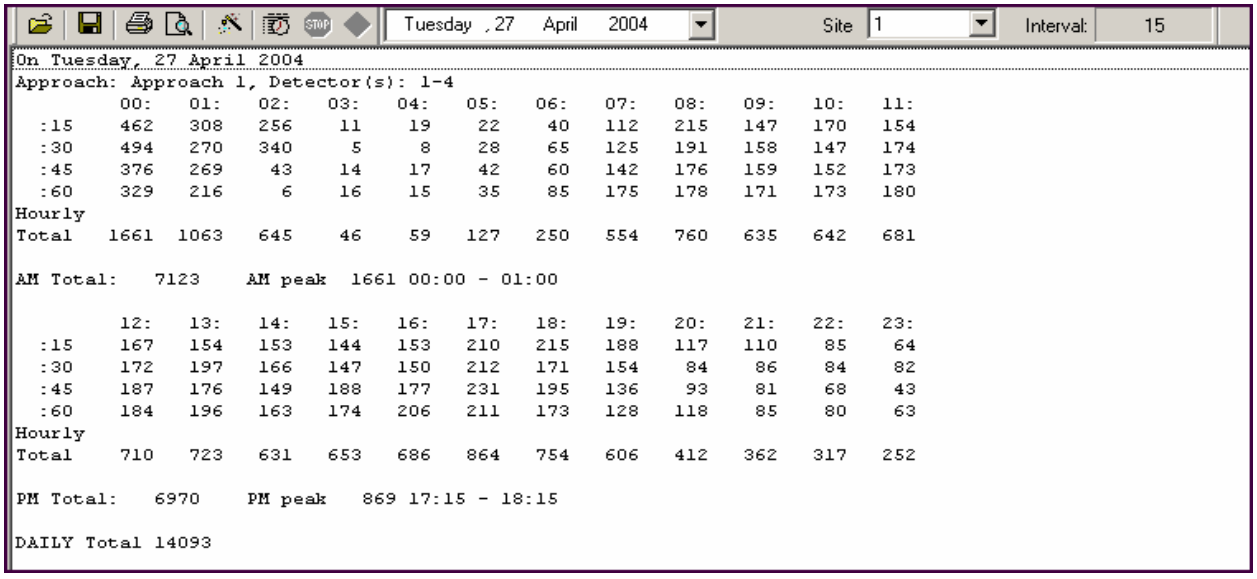

Figure 30: Traffic flow text displayed as table

6.3.2 Traffic flow column display

At the top of each day's data is the date and a list of the detectors that you have defined in each approach.

This is followed by the data listed as a series of columns for each day of the selected time period. The columns show:

- each data interval
- approach number
- count for each detector in an approach
- total for all the detectors in that approach

At the bottom of each day's data is the a.m. and p.m. peak and the daily total for each approach.

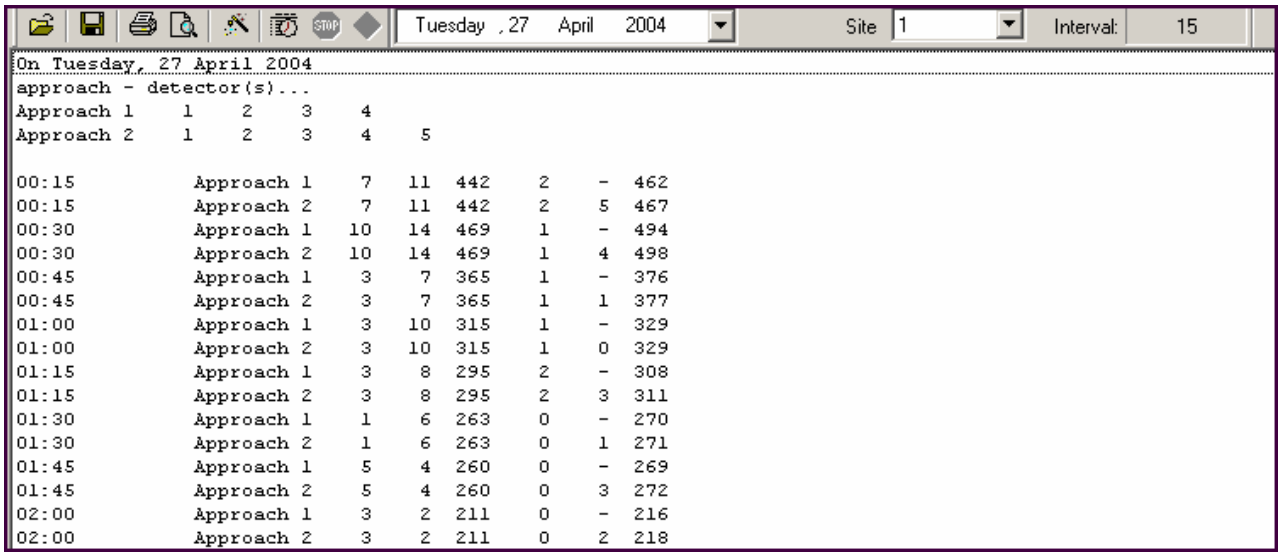

Figure 31: Traffic flow text displayed in columns

6.3.3 Traffic flow dump display

The file date is shown at the top of the data for each day. This is followed by the raw detector count data for every detector for every site in the file.

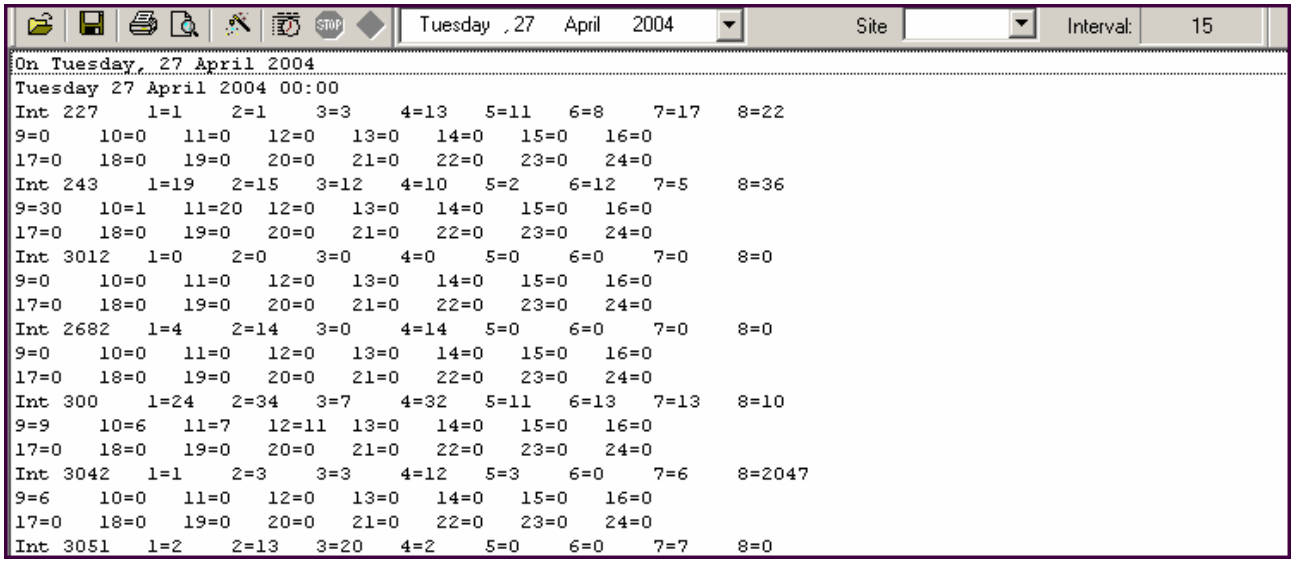

Figure 32: Traffic flow text displayed as a dump of raw data

6.4 Traffic flow: Statistics

Choose **View** > **Statistics** to see counts for selected periods for each detector for the selected site.

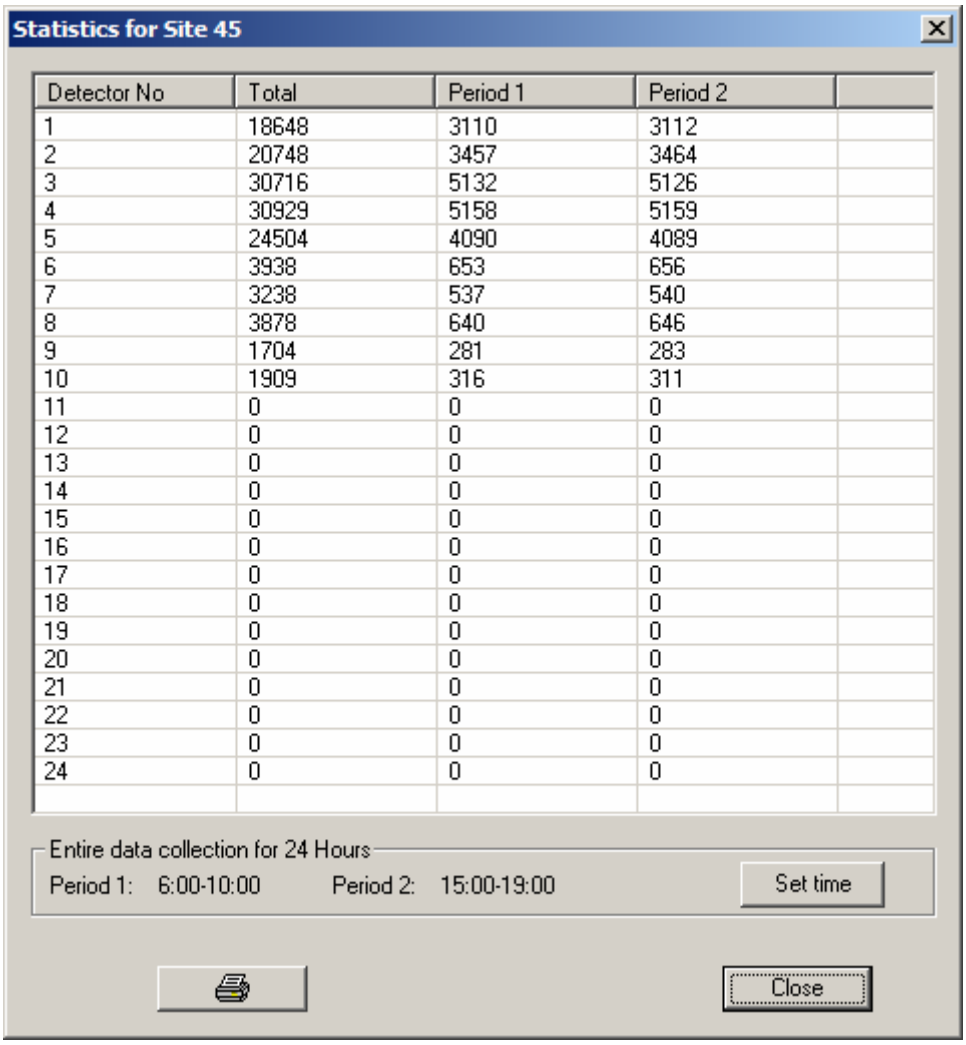

Figure 33: Detector count statistics for selected site

Click **Set time** to change the time periods.

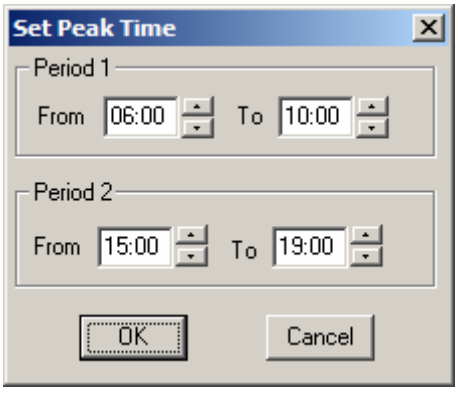

Figure 34: Set Peak Time dialogue

Notes

7 Appendix A: Data collection, access and storage

7.1 Data file collection overview

SCATS Traffic Reporter uses data that has been collected by SCATS Region and stored in daily files. Each file includes the date and time at which the data was collected and the data itself. SCATS Traffic Reporter uses the date fields to sort and show information for each selected time period. The original files are in a binary format, so the data can only be viewed using SCATS Traffic Reporter or a similar program.

The collection of data occurs automatically, but the detector counts are only stored for the detectors specified when configuring the site in SCATS Access. To specify which detectors to collect, open SCATS Access and log on with access level 4 or above. Monitor the required site and choose **Configure** > **Sites** > **Edit** to open the **Site Configuration** dialogue. Select the **Volumes** tab and adjust the value in the **Detector volume collection** area.

The data is retained for the period specified when configuring SCATS Region. The default is 365 days, but this can be increased or decreased. Make sure that your organisation has a backup and archival policy to ensure that old data is still accessible outside the SCATS Region's specified data retention period.

7.2 Strategic monitor file names

A new strategic monitor file is opened at the start of each day and any files older than the number of days specified during SCATS Region configuration are deleted.

Strategic monitor files are saved using the following file naming convention:

region_yyyymmdd.**sm**

where:

region = region name
yyyy = year
mm = month
dd = day

Strategic monitor files may be copied and renamed, but the **sm** file extension must be retained so that SCATS Traffic Reporter can recognise them.

7.3 Detector count file names

A new detector count file is opened at the start of each day and any files older than the number of days specified during SCATS Region configuration are deleted.

Detector count files are saved using the following file naming convention:

region_yyyymmdd.**VS**

where:

region = region name
yyyy = year
mm = month
dd = day

Detector count files may be copied and renamed, but the **VS** file extension must be retained so that SCATS Traffic Reporter can recognise them.

7.4 Default data storage locations

By default, SCATS Region stores strategic monitor files in the following folder:

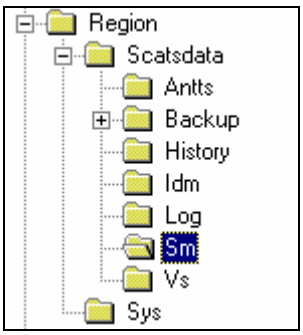

Figure 35: Default strategic monitor file location

By default, SCATS Region stores detector count files in the following folder:

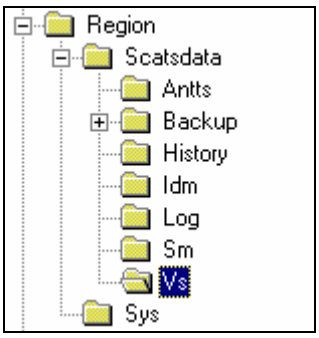

Figure 36: Default detector count file location