

SCATS non-core products

SCATS User Group Conference 2018

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Transport
Roads & Maritime
Services



Topics

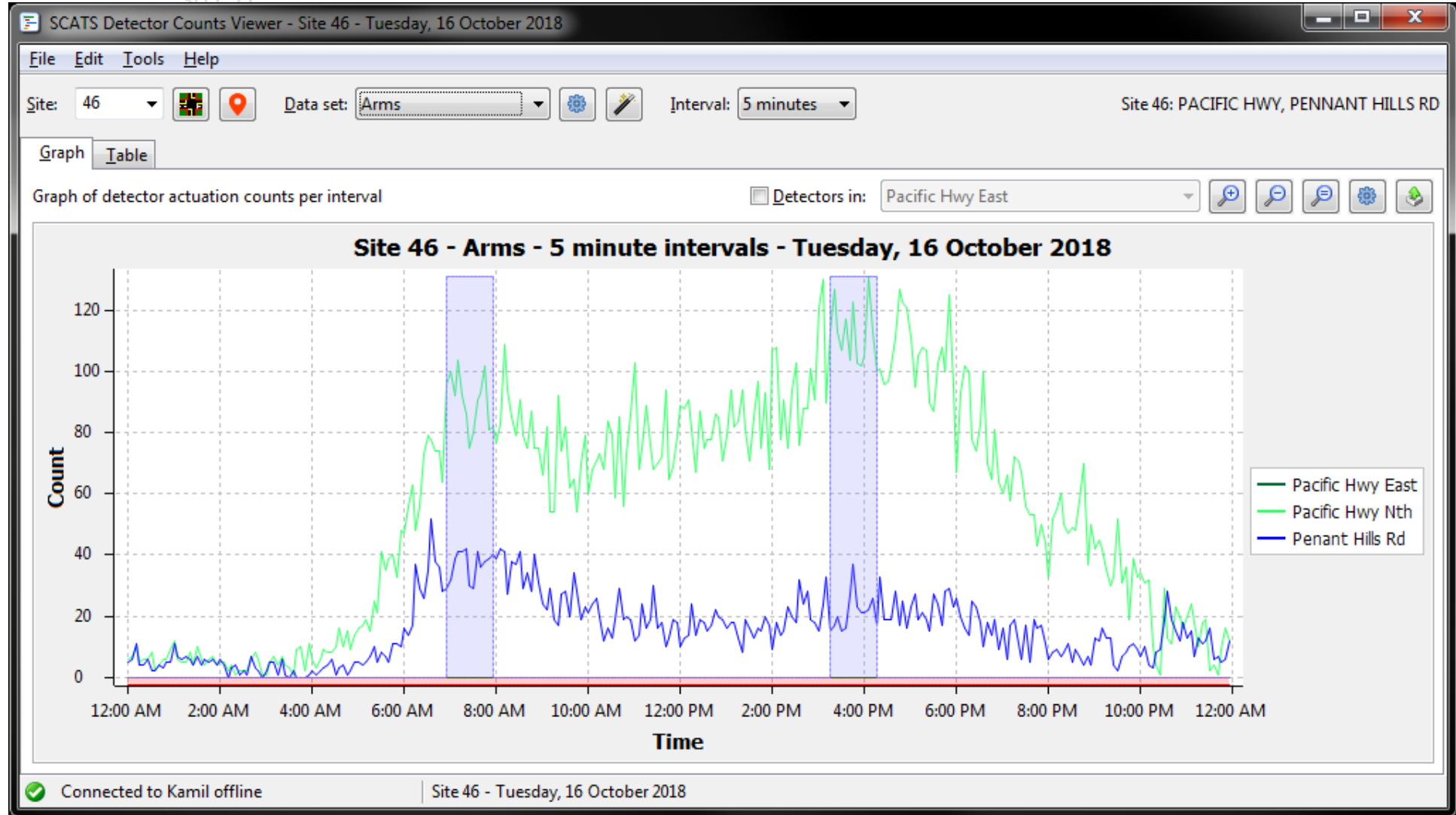
- SCATS Detector Counts Viewer
- SCATS File Decoder
- SCATS File Downloader
- Other updates

SCATS Detector Counts Viewer

- Displays detector counts data
- Counts per site, aggregated over 5/15/30/60 minute intervals
- Input: DET/VS files
- Output: graphical profile, comma/tab delimited text
- Replaces detector counts features of Traffic Reporter
- Version 1.0.0:
 - Development 90% complete
 - Early testing phase
 - On-target for release alongside SCATS 6.9.4.

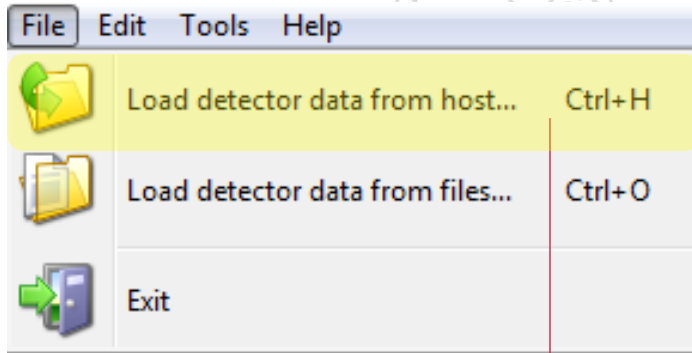
SCATS Detector Counts Viewer

Application window

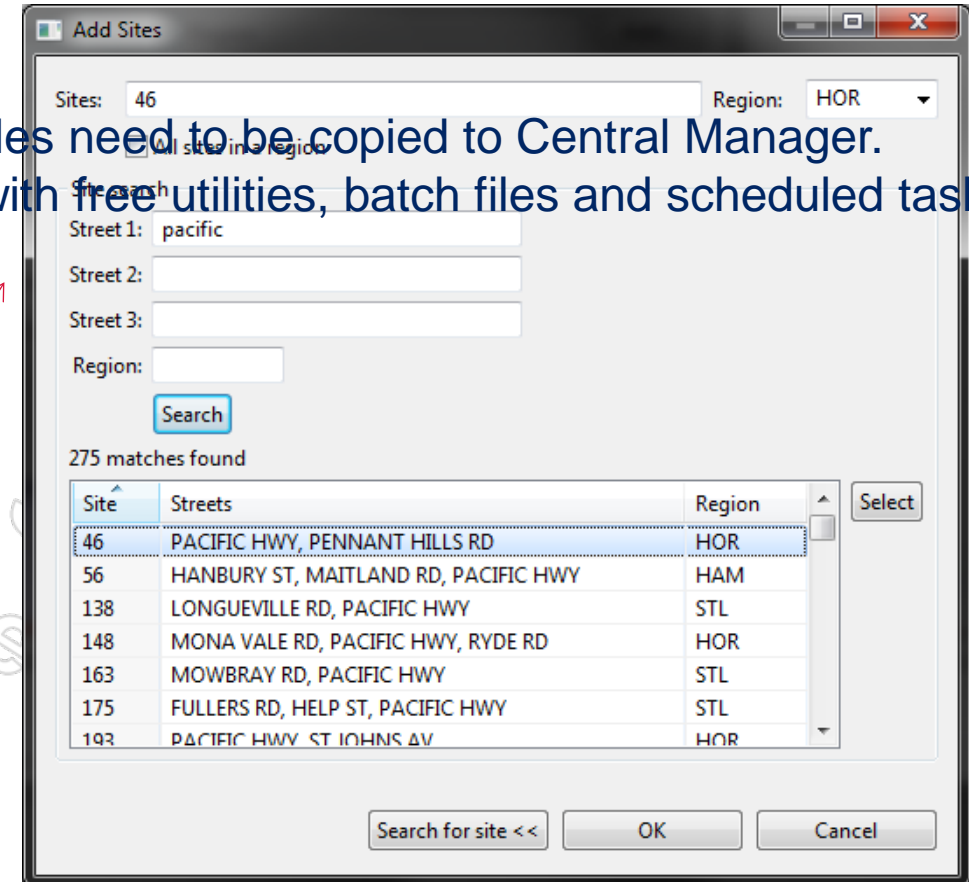
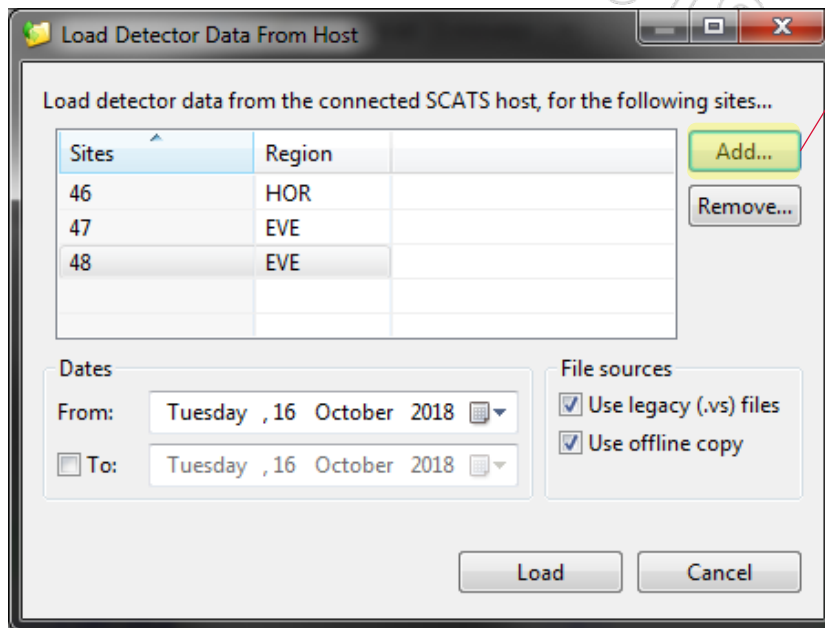


SCATS Detector Counts Viewer

VS/DET file loading from host

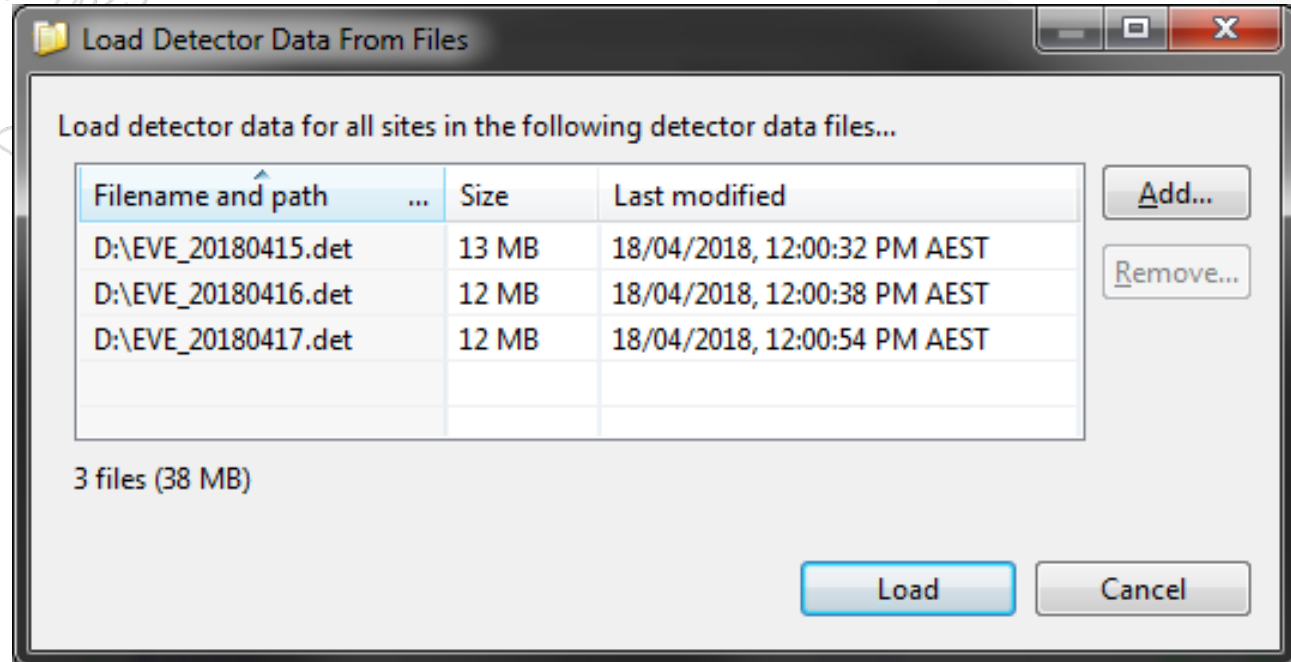
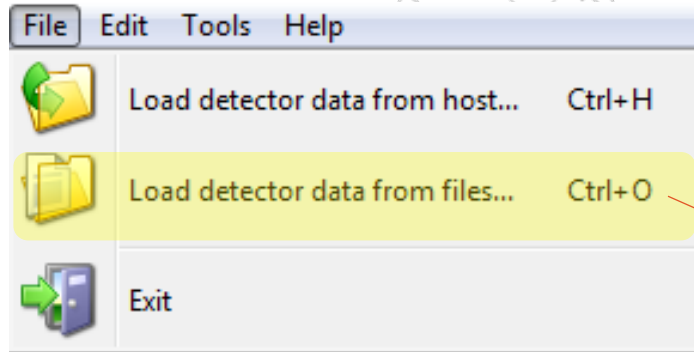


NOTE: SCATS Region files need to be copied to Central Manager. This can be automated with free utilities, batch files and scheduled tasks.



SCATS Detector Counts Viewer

VS/DET file loading from files



SCATS Detector Counts Viewer

Site and interval selection

Site: 46 [Map Icon] [Location Pin Icon] Data set: Arms [Settings Icon] [Pencil Icon] Interval: 5 minutes

46
46
47
48

Site 46 Schematic

TCS 46
WAHROONGA SS=13 153.7
HOR

3 PHASES
A
B
C

Close

33°43'05.9"S 151°06'29.7"E - Google Maps

https://www.google.com/maps/place/33°43'05.9"S+151°06'29.7"E/@-33.718311,151.108261,15z

33°43'05.9"S 151°06'29.7"E
-33.718311, 151.108261

Directions

SAVE NEARBY SEND TO YOUR PHONE SHARE

74J5+M8 Wahroonga, New South Wales

Add a missing place

Add a label

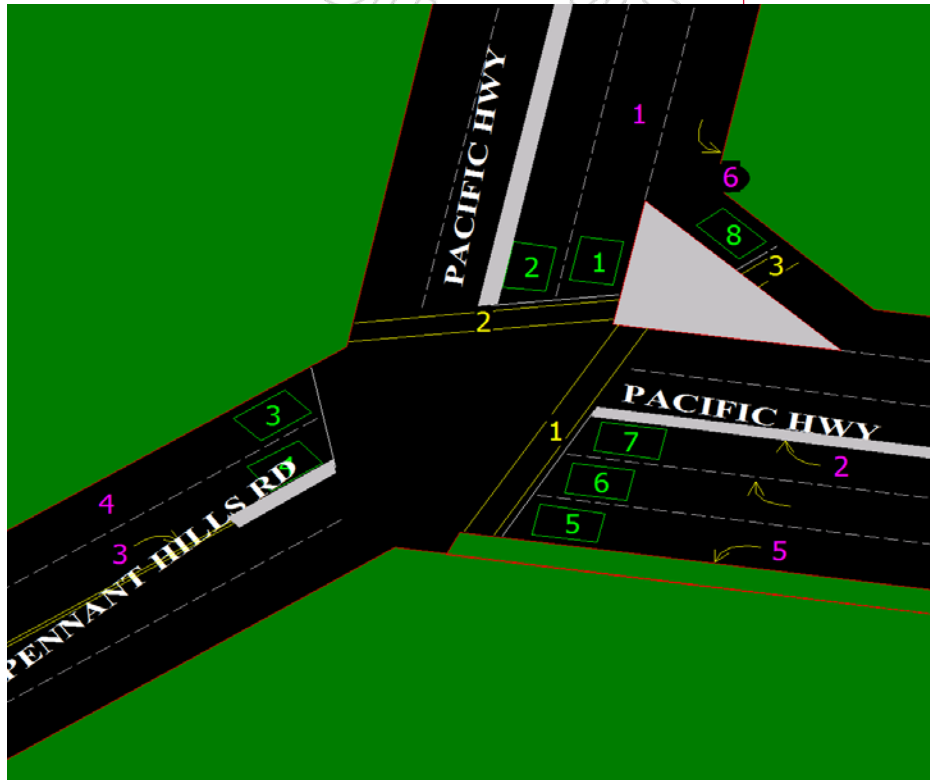
5 minutes
5 minutes
15 minutes
30 minutes
1 hour

Map data ©2018 Google Australia Terms Send feedback 100 m

SCATS Detector Counts Viewer

Data set selection

Site: 46 [Map Icon] [Location Icon] Data set: Arms [Settings Icon] [Pencil Icon] Interval: 5 minutes






Detector groups

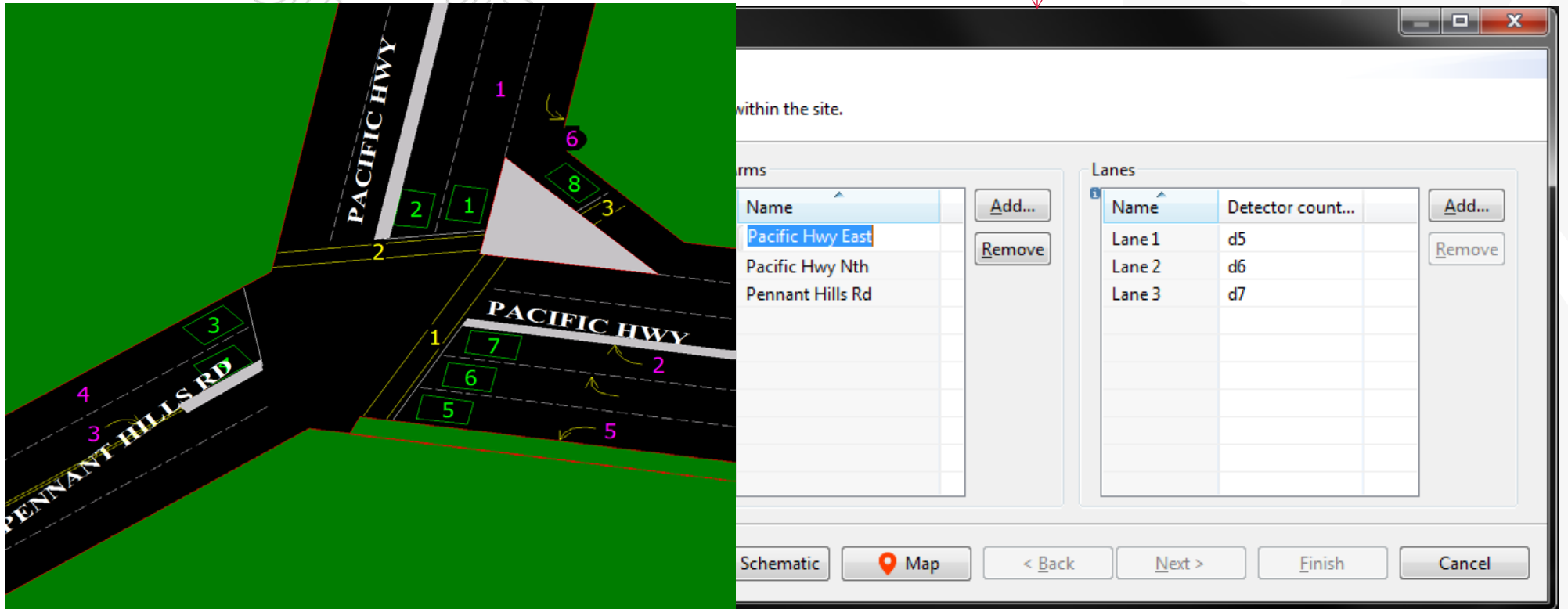
Name	Detector counts source	
Pacific Hwy East	d5+ d7+ d6	
Pacific Hwy Nth	d8+ d2+ d1	
Penant Hills Rd	d3+ d4	

Buttons: Add... Remove Import... Export... Defaults OK Cancel

SCATS Detector Counts Viewer

Data set wizard

Site: 46   Data set: Arms   Interval: 5 minutes



The screenshot shows the SCATS Detector Counts Viewer interface. On the left is a map of a road intersection with detector locations marked by numbered boxes (1-8) and arrows. The roads are labeled 'PACIFIC HWY' and 'PENNANT HILLS RD'. On the right is a configuration window titled 'Arms' with a 'Lanes' section. The 'Lanes' section contains a table with the following data:

Name	Detector count...
Lane 1	d5
Lane 2	d6
Lane 3	d7

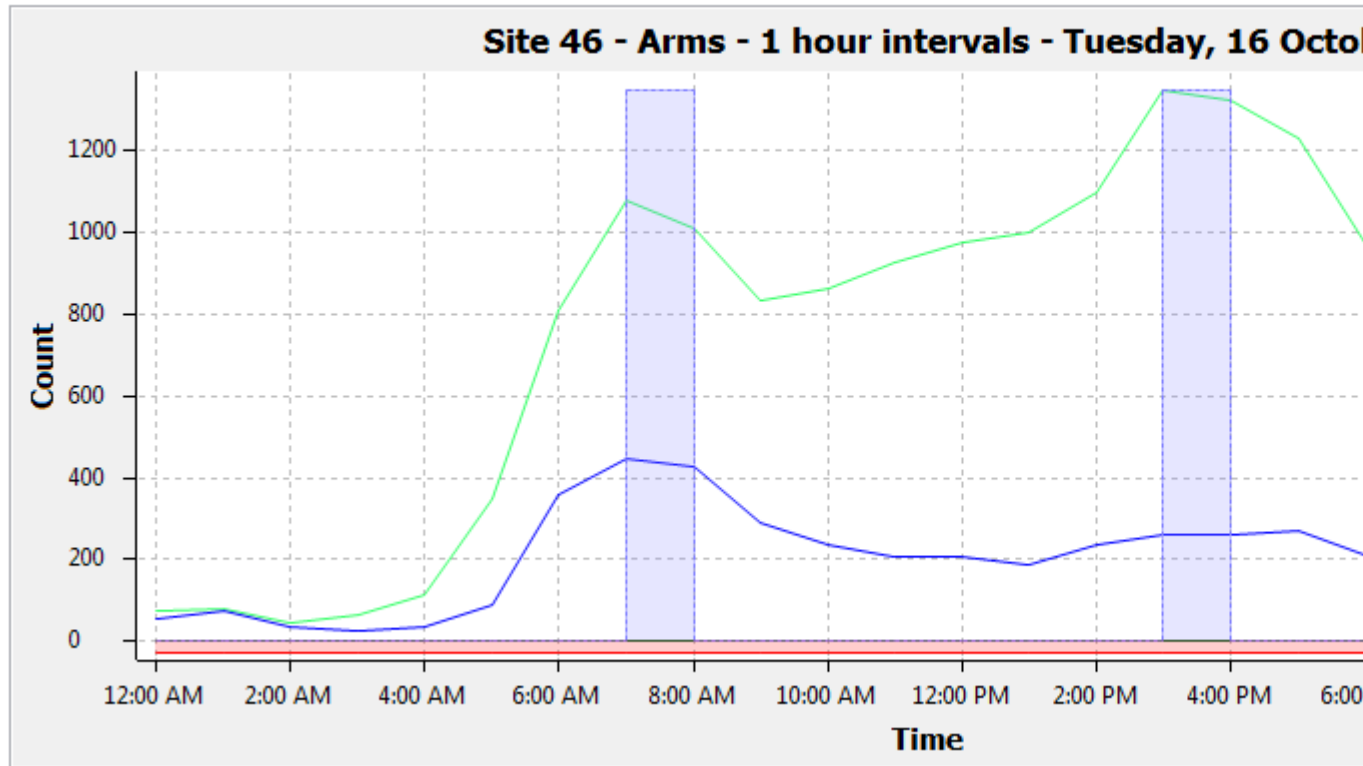
At the bottom of the configuration window are buttons for 'Schematic', 'Map', '< Back', 'Next >', 'Finish', and 'Cancel'.

SCATS Detector Counts Viewer

Counts profile chart

Graph of detector actuation counts per interval

Detectors in: Pacific Hwy East



Configure Graph

Line series to display

Name	Colour
<input checked="" type="checkbox"/> Pacific Hwy East	Green
<input checked="" type="checkbox"/> Pacific Hwy Nth	Blue
<input checked="" type="checkbox"/> Penant Hills Rd	Red
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

Additional display options

Chart style: Line Step

Show bad data entries

Show AM and PM peak hour bands

OK Cancel

SCATS Detector Counts Viewer

Counts profile table

Table of detector actuation counts per interval

Detectors in: Pacific Hwy East

Date	Interval start	Interval end	Pacific Hwy East	Pacific Hwy Nth	Penant Hills Rd	Total
Tuesday, 16 October 2018	12:00:00 AM AEDT	1:00:00 AM AEDT	0	75	57	
Tuesday, 16 October 2018	1:00:00 AM AEDT	2:00:00 AM AEDT	0	77	73	
Tuesday, 16 October 2018	2:00:00 AM AEDT	3:00:00 AM AEDT	0	44	33	
Tuesday, 16 October 2018	3:00:00 AM AEDT	4:00:00 AM AEDT	0	64	23	
Tuesday, 16 October 2018	4:00:00 AM AEDT	5:00:00 AM AEDT	0	114	34	
Tuesday, 16 October 2018	5:00:00 AM AEDT	6:00:00 AM AEDT	0	349	88	
Tuesday, 16 October 2018	6:00:00 AM AEDT	7:00:00 AM AEDT	0	808	357	
Tuesday, 16 October 2018	7:00:00 AM AEDT	8:00:00 AM AEDT	0	1078	448	
Tuesday, 16 October 2018	8:00:00 AM AEDT	9:00:00 AM AEDT	0	1009	427	
Tuesday, 16 October 2018	9:00:00 AM AEDT	10:00:00 AM AEDT	0	834	290	
Tuesday, 16 October 2018	10:00:00 AM AEDT	11:00:00 AM AEDT	0	862	238	
Tuesday, 16 October 2018	11:00:00 AM AEDT	12:00:00 PM AEDT	0	928	209	
Tuesday, 16 October 2018	12:00:00 PM AEDT	1:00:00 PM AEDT	0	976	205	
Tuesday, 16 October 2018	1:00:00 PM AEDT	2:00:00 PM AEDT	0	1003	189	
Tuesday, 16 October 2018	2:00:00 PM AEDT	3:00:00 PM AEDT	0	1100	238	
Tuesday, 16 October 2018	3:00:00 PM AEDT	4:00:00 PM AEDT	0	1350	263	
Tuesday, 16 October 2018	4:00:00 PM AEDT	5:00:00 PM AEDT	0	1327	262	
Tuesday, 16 October 2018	5:00:00 PM AEDT	6:00:00 PM AEDT	0	1234	272	
Tuesday, 16 October 2018	6:00:00 PM AEDT	7:00:00 PM AEDT	0	977	212	

Configure Table

Table columns to display

Column heading	
<input checked="" type="checkbox"/> Date	
<input checked="" type="checkbox"/> Interval start	
<input checked="" type="checkbox"/> Interval end	
<input checked="" type="checkbox"/> Pacific Hwy East	
<input checked="" type="checkbox"/> Pacific Hwy Nth	
<input checked="" type="checkbox"/> Penant Hills Rd	
<input checked="" type="checkbox"/> Total	

Additional display options

Custom date format: dd/MM/yyyy

Custom time format: HH:mm:ss

Highlight AM and PM peak hour rows

OK Cancel

SCATS Detector Counts Viewer

Command line interface (CLI)

```
ScatsDetectorCountsViewer.exe {VS/DET_FILES} -site SITE_NUMBER -interval {5/15/30/60}  
[-dataset DATA_SET_NAME] [-out OUTPUT_FILE]
```

Where **VS/DET_FILES** can be from:

- SCATS Central Manager:

```
-from YYYYMMDD  
[-to YYYYMMDD] [-legacy] [-offline] [-region REGION_NAME]
```

- Local disk/network:

```
-files FILES_CSV
```

SCATS Detector Counts Viewer

Command line interface (CLI)

Examples:

```
ScatsDetectorCountsViewer.exe -site 7 -interval 5 -from 20180930
```

```
ScatsDetectorCountsViewer.exe -site 7 -interval 15 -from 20180901 -to 20180930
```

```
ScatsDetectorCountsViewer.exe -site 7 -interval 30 -from 20180901 -legacy -offline
```

```
ScatsDetectorCountsViewer.exe -site 7 -interval 30 -from 20180901 -to 20180930
```

```
ScatsDetectorCountsViewer.exe -site 7 -interval 60 -from 20180930 -dataset Arms
```

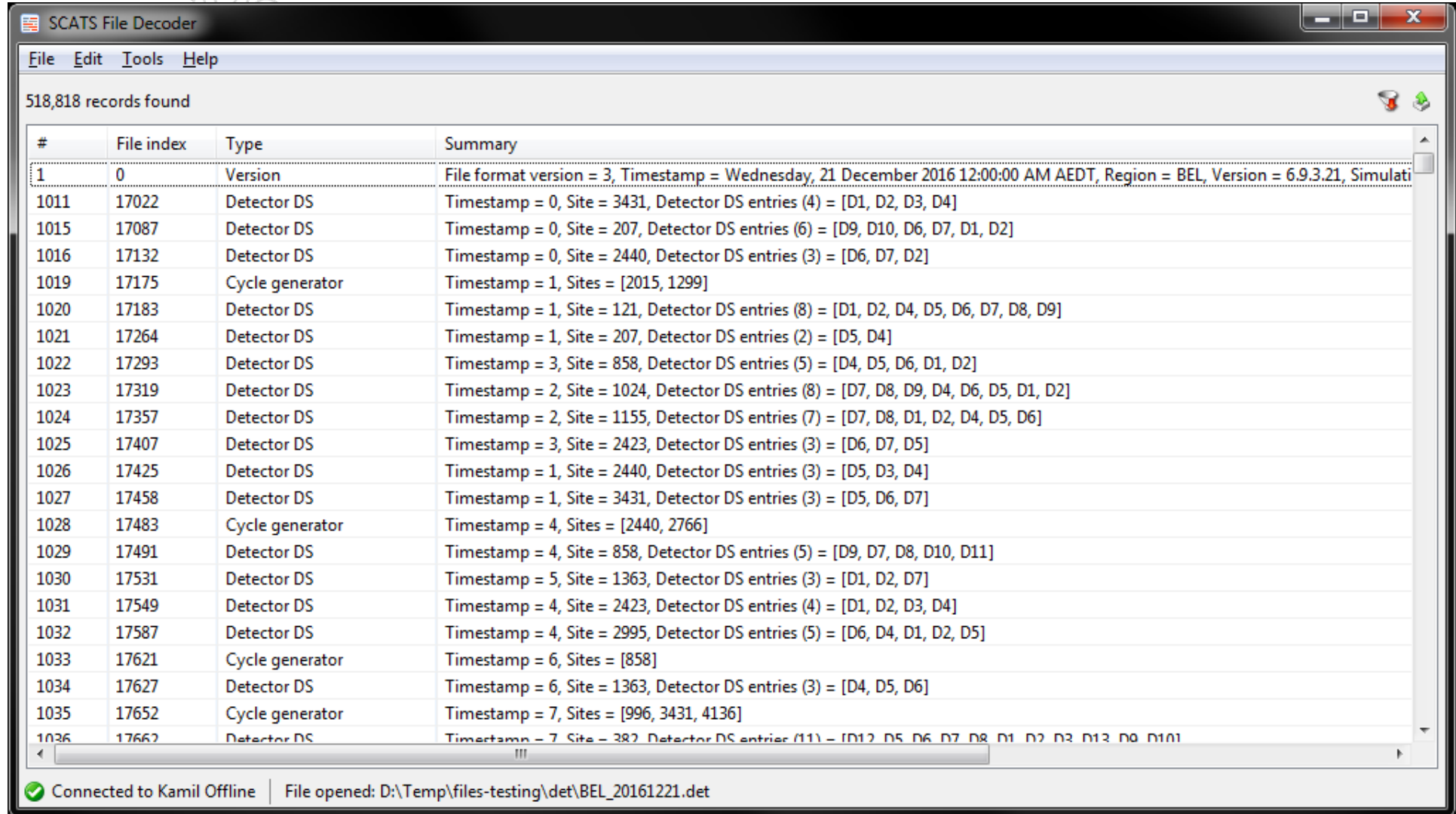
```
ScatsDetectorCountsViewer.exe -site 7 -interval 60  
-files "ALB_20180901.vs, ALB_20180902.vs, ALB_20180903.vs"
```

SCATS File Decoder

- Displays raw SCATS file records in human readable form
- Input: binary SCATS files:
 - Detector data (*.det, *.vs)
 - Event log (*.evl)
 - History (*.hst, *.hist)
 - Strategic monitor (*.sm)
- Output: Summary text/JSON
- Version 1.0.0:
 - Development 90% complete
 - Early testing phase
 - On-target for release alongside SCATS 6.9.4

SCATS File Decoder

Application window



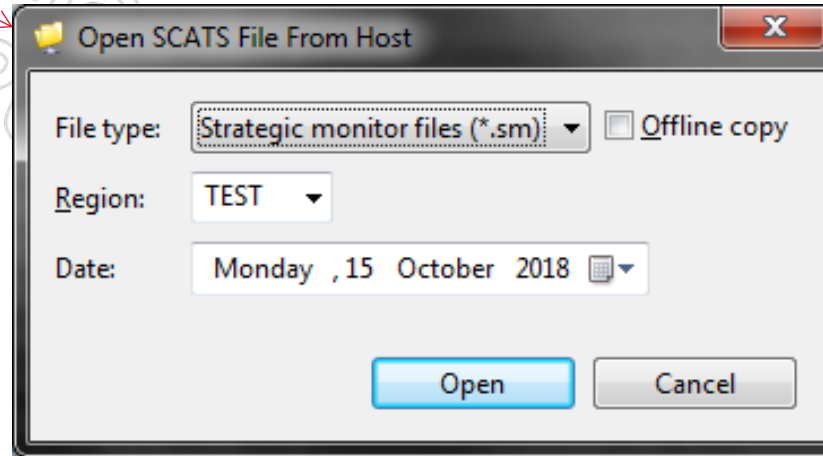
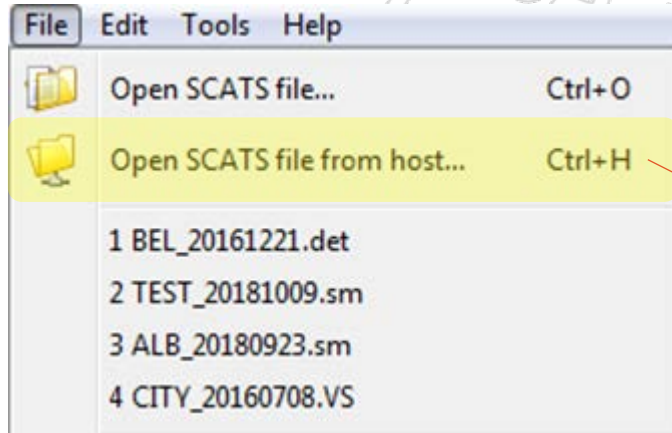
518,818 records found

#	File index	Type	Summary
1	0	Version	File format version = 3, Timestamp = Wednesday, 21 December 2016 12:00:00 AM AEDT, Region = BEL, Version = 6.9.3.21, Simulati
1011	17022	Detector DS	Timestamp = 0, Site = 3431, Detector DS entries (4) = [D1, D2, D3, D4]
1015	17087	Detector DS	Timestamp = 0, Site = 207, Detector DS entries (6) = [D9, D10, D6, D7, D1, D2]
1016	17132	Detector DS	Timestamp = 0, Site = 2440, Detector DS entries (3) = [D6, D7, D2]
1019	17175	Cycle generator	Timestamp = 1, Sites = [2015, 1299]
1020	17183	Detector DS	Timestamp = 1, Site = 121, Detector DS entries (8) = [D1, D2, D4, D5, D6, D7, D8, D9]
1021	17264	Detector DS	Timestamp = 1, Site = 207, Detector DS entries (2) = [D5, D4]
1022	17293	Detector DS	Timestamp = 3, Site = 858, Detector DS entries (5) = [D4, D5, D6, D1, D2]
1023	17319	Detector DS	Timestamp = 2, Site = 1024, Detector DS entries (8) = [D7, D8, D9, D4, D6, D5, D1, D2]
1024	17357	Detector DS	Timestamp = 2, Site = 1155, Detector DS entries (7) = [D7, D8, D1, D2, D4, D5, D6]
1025	17407	Detector DS	Timestamp = 3, Site = 2423, Detector DS entries (3) = [D6, D7, D5]
1026	17425	Detector DS	Timestamp = 1, Site = 2440, Detector DS entries (3) = [D5, D3, D4]
1027	17458	Detector DS	Timestamp = 1, Site = 3431, Detector DS entries (3) = [D5, D6, D7]
1028	17483	Cycle generator	Timestamp = 4, Sites = [2440, 2766]
1029	17491	Detector DS	Timestamp = 4, Site = 858, Detector DS entries (5) = [D9, D7, D8, D10, D11]
1030	17531	Detector DS	Timestamp = 5, Site = 1363, Detector DS entries (3) = [D1, D2, D7]
1031	17549	Detector DS	Timestamp = 4, Site = 2423, Detector DS entries (4) = [D1, D2, D3, D4]
1032	17587	Detector DS	Timestamp = 4, Site = 2995, Detector DS entries (5) = [D6, D4, D1, D2, D5]
1033	17621	Cycle generator	Timestamp = 6, Sites = [858]
1034	17627	Detector DS	Timestamp = 6, Site = 1363, Detector DS entries (3) = [D4, D5, D6]
1035	17652	Cycle generator	Timestamp = 7, Sites = [996, 3431, 4136]
1036	17662	Detector DS	Timestamp = 7, Site = 382, Detector DS entries (11) = [D12, D5, D6, D7, D8, D1, D2, D3, D13, D9, D10]

Connected to Kamil Offline | File opened: D:\Temp\files-testing\det\BEL_20161221.det

SCATS File Decoder

File opening



NOTE: SCATS Region files need to be copied to Central Manager.
This can be automated with free utilities, batch files and scheduled tasks.

SCATS File Decoder

Records table and filtering

518,818 records found

#	File index	Type	Summary
1	0	Version	File format version = 3, Timestamp = Wednesday, 21 December 2016 12:00:00 AM AEDT, Region = BEL, Version = 6.9.3.21, Simulati
1011	17022	Detector DS	Timestamp = 0, Site = 3431, Detector DS entries (4) = [D1, D2, D3, D4]
1015	17087	Detector DS	Timestamp = 0, Site = 207, Detector DS entries (6) = [D9, D10, D6, D7, D1, D2]
1016	17132	Detector DS	Timestamp = 0, Site = 2440, Detector DS entries (3) = [D6, D7, D2]
1019	17175	Cycle generator	Timestamp = 1, Sites = [2015, 1299]
1020	17183	Detector DS	Timestamp = 1, Site = 121, Detecto
1021	17264	Detector DS	Timestamp = 1, Site = 207, Detecto
1022	17293	Detector DS	Timestamp = 3, Site = 858, Detecto

Details...
Copy rows as
Copy data as
Export rows as...
Export data as...
Select all

Plain text
JSON

Records Filter

Types

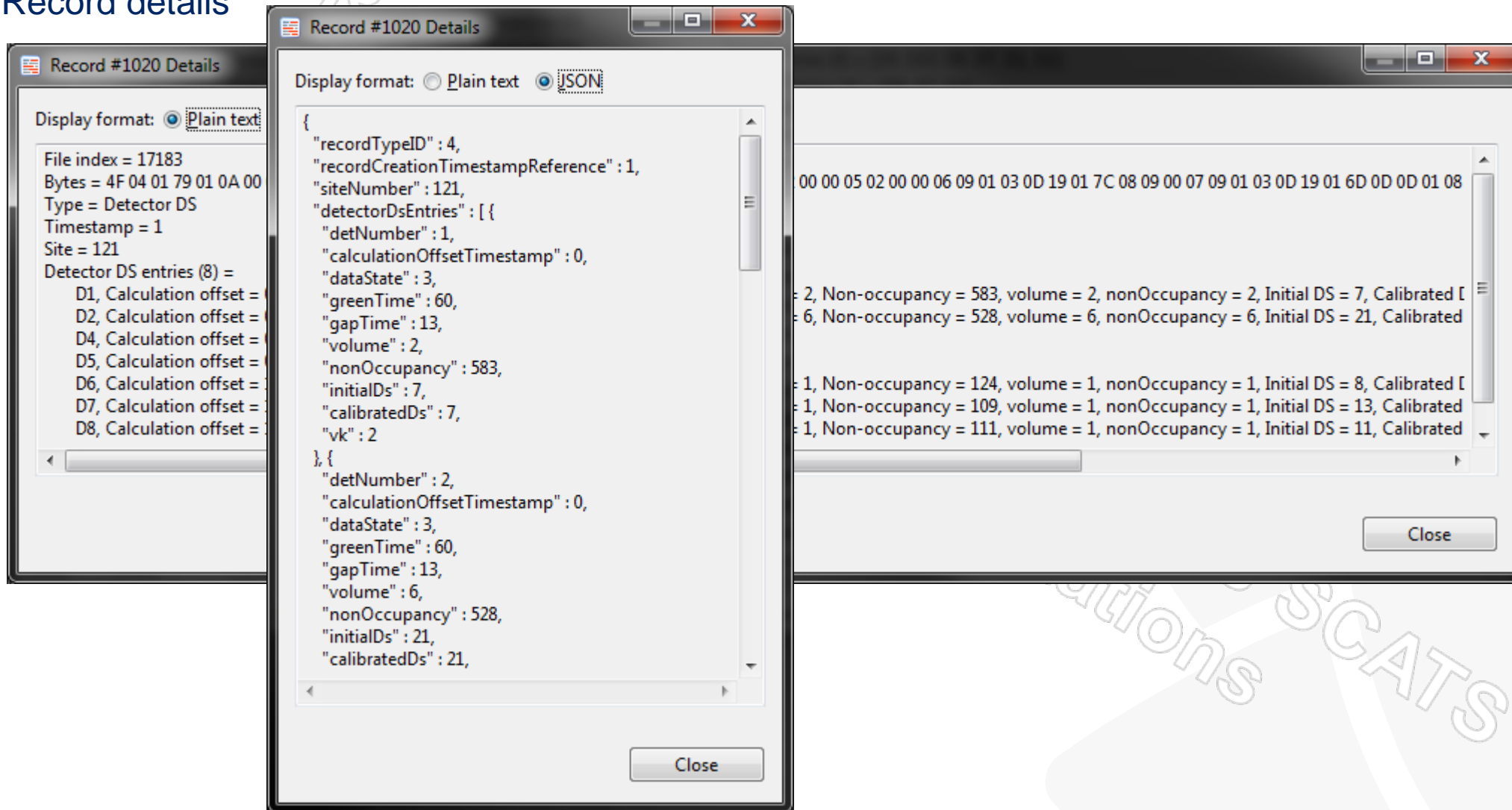
- Cycle generator
- Daily average occupancy
- Daily average volume
- Daily headway
- Detector DS
- Detector data
- Detector fault
- Initial state
- Lane calibration factor
- Site fault
- Special day
- Timestamp
- Traffic Count
- Version

Details: Subsystem number=1\$ Regular Expression

Save and apply Cancel

SCATS File Decoder

Record details



SCATS File Decoder

Command line interface (CLI)

```
ScatsFileDecoder.exe -in SCATS_FILE [-filter FILTER_FILE] [-out OUTPUT_FILE]
```

Examples:

```
ScatsFileDecoder.exe -in ALB_20180930.hst
```

```
ScatsFileDecoder.exe -in 20180930.evl -filter "C:\filters\WD.filter"
```

```
ScatsFileDecoder.exe -in ALB_20180930.hst -out "C:\20180930.txt"
```

```
ScatsFileDecoder.exe -in ALB_20180930.hst -out "C:\20180930.json"
```

SCATS File Downloader

- Search for and download SCATS files on Central Manager
- Supported SCATS file types:
 - ANTTTS (*.ant)
 - Detector data (*.det, *.vs)
 - Event log (*.evl)
 - History (*.hist, *.hst)
 - Site diagnostic monitor (*.idm)
 - Strategic monitor (*.sm)
 - System files:
 - LX
 - MSG
 - PROM
 - RAM
 - TC
- NOTE: SCATS Region files need to be copied to Central Manager. This can be automated with free utilities, batch files and scheduled tasks.
- Version 1.0.0:
 - Development complete
 - Late testing phase
 - On-target for release alongside SCATS 6.9.4

SCATS File Downloader

Application window

SCATS File Downloader

File Edit Tools Help

File
Type: **Detector count (*.vs)**
 Offline copy

Source
Region: **HOR**
Site: **14**

Date range
 From: **Thursday, 1 September 2016**
 To: **Friday, 24 August 2018**

List files
Download...

Filename	Size	Last modified
HOR_20181016.VS	2 MB	17/10/2018 12:03:00 AM
HOR_20181015.VS	2 MB	16/10/2018 12:03:01 AM
HOR_20181014.VS	2 MB	15/10/2018 12:03:01 AM
HOR_20181013.VS	2 MB	14/10/2018 12:03:00 AM
HOR_20181012.VS	2 MB	13/10/2018 12:03:01 AM
HOR_20181011.VS	2 MB	12/10/2018 12:03:01 AM
HOR_20181010.VS	2 MB	11/10/2018 12:03:01 AM
HOR_20181009.VS	2 MB	10/10/2018 12:03:01 AM
HOR_20181008.VS	2 MB	09/10/2018 12:03:01 AM
HOR_20181007.VS	2 MB	08/10/2018 12:03:01 AM
HOR_20181006.VS	2 MB	07/10/2018 1:03:01 AM
HOR_20181005.VS	2 MB	06/10/2018 1:03:00 AM
HOR_20181004.VS	2 MB	05/10/2018 1:03:01 AM
HOR_20181003.VS	2 MB	04/10/2018 1:03:00 AM
HOR_20181002.VS	2 MB	03/10/2018 1:03:01 AM
HOR_20181001.VS	2 MB	02/10/2018 1:03:00 AM
HOR_20180930.VS	2 MB	01/10/2018 1:03:00 AM
HOR_20180929.VS	2 MB	30/09/2018 1:03:01 AM
HOR_20180928.VS	2 MB	29/09/2018 1:03:01 AM

Connected to 163.189.14.91 | 3,798 files found (3 selected: 6 MB)

SCATS File Downloader

Command line interface (CLI)

```
ScatsFileDownloader.exe -download SCATS_FILE  
[-region REGION_NAME] [-offline] [-out OUTPUT_FILE]
```

Examples:

```
ScatsFileDownloader.exe -download ALB_20180930.hst
```

```
ScatsFileDownloader.exe -download 20180930.ix -region ALB
```

```
ScatsFileDownloader.exe -download 20080101.ix -region ALB -offline
```

Other updates

- Other upcoming releases (alongside SCATS 6.9.4):
 - SCATS History Viewer 1.2.0
 - SCATS Link View 1.3.0
- New platform and UI framework
- Replace some older products
- Future plans:
 - Ability to run offline (without SCATS Central Manager connection)
 - New ITS interface (ITS Link) support.

Questions?

For further information after this event please contact

scatshelp@rms.nsw.gov.au

