

Blue Sky Municipal GIS Partnership

# Traffic Counter Procedures



**TRAX Apollyon**  
Automatic Traffic Data Recorder

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## Blue Sky Municipal GIS Partnership

### Traffic Counter Procedures

The following document describes how to book traffic counters. Throughout these chapters you will obtain the procedures for setup and the knowledge to load and use the software once traffic counts have been obtained.

#### **PART 1**

##### ***Traffic Counter Booking Procedure***

The eight traffic counters are stored at the Blue Sky Net office, 204 First Ave West, North Bay (705-476-0874) ext 205. *Call to book counters or to check availability.*

##### ***Some general Rules:***

It is your responsibility to pick up and return the counters before the end of your booking period.

Please return the counters in an excellent, clean condition, with all parts and manuals in the supplied containers.

Please notify Blue Sky Net if units are damaged or supplies are needed.

## **PART 2**

### ***Tube Set Up*** (Standard Two way traffic Layout-6 installation)

- 1) Spike down each tube (through the C-clamps) on the far side of the road, measuring precisely 24 inch spacing.
- 2) Once the road tube has been secured to the far side of the road, pull the tube back across the road to the location where the TRAX counter will be placed. (Carefully eye how the tube is laid out. It should be exactly perpendicular to the traffic flow so that the vehicles are not hitting it at an angle).
- 3) Spike the end plates and secure the clamps by pulling tightly on the tubes. (Do not stretch the tube; just pull it tight to avoid any movement).
- 4) On the Center line apply the webbing to secure the middle.
- 5) Fasten the south or eastern tube to A, and the other tube to B



**WEBBING:** Approx. 4" to 5" long. Loop over tube and nail as shown above.

### ***Counter Set Up***

- 1) Turn the TRAX Apollyon ON by pressing the POWER button.
- 2) From the Main Menu, press the "DO" key when Count is flashing.
- 3) Select the type of study you wish to do by using the "TAB" key and hitting "DO" when your selection is flashing. The options are Basic and Volume Only. Basic: time-stamped raw data. This study gives you the greatest flexibility and, depending on the layout selected, can be used to get volume, class, speed and gap information. This is the selection that is most commonly used with the TRAX Apollyon and the one we recommend.
- 4) After selecting your type of study, you will be prompted to select a tube layout. Layouts L6 is a standard two-way traffic count and will be highlighted by default. Refer to the descriptions on the TRAX Apollyon for the appropriate selection. Layouts L5, L6, L10, L11 and L12 can be used to collect data for speed, class, gap and volume. The remaining layouts can provide only gap and volume data. "TAB" to your selection and press the "DO" key to select it.
- 5) You will then be prompted to select a site code. Press "DO" with Yes flashing to enter one or press "DO" with No flashing to not use a site code. **The site code is a user defined location of where the counter is located. Use an alpha-numeric code that has meaning to the site you are capturing data for.**
- 6) Press "DO" with Start flashing to begin capturing vehicle data.

## **PART 3**

### ***Installing Traffic Counter Software and Device Drivers***

Blue Sky Net has negotiated an unlimited license for the TRAXPro software. This means you can install the software on as many PCs as you would like.

For additional reference you can download the software manual at

[http://www.jamartech.com/files/TRAXPro\\_Manual.pdf](http://www.jamartech.com/files/TRAXPro_Manual.pdf)

other reference manuals and tips and techniques are available at

<http://www.jamartech.com/manuals.html>

If TRAXPro is not already installed on your computer, insert the DVD into your reader.

- 1) When the Installation Window appears, click install TRAXPro (tutorials are also available for viewing)
- 2) The standard Windows InstallShield Wizard will appear, click next
- 3) Enter your name, municipal name and the following Serial  
  
2542-D88L-LZXT-9CD7-4274  
  
and press “next”, then press “yes”, then “next”, then “next”, then “next”
- 4) When complete, click the box for “I would like to run TRAXPro” and click finish
- 5) You will need to install USB drivers to connect the counter to your computer. To do this refer to the user manual, page A-2, or follow the following steps.
  - connect the supplied USB cable to an empty USB port on your computer
  - connect the other end of the USB cable to the counter
  - turn the counter on
  - in a few moments windows will display the “found new device” window
  - click on “find driver” at the top of the window
  - Windows will now automatically find and install the drivers, this may take awhile
  - Note that there are two drivers
  - If the drivers fail to install, go to the following and follow the instructions  
<http://www.jamartech.com/usbdriers-apollyon.html>

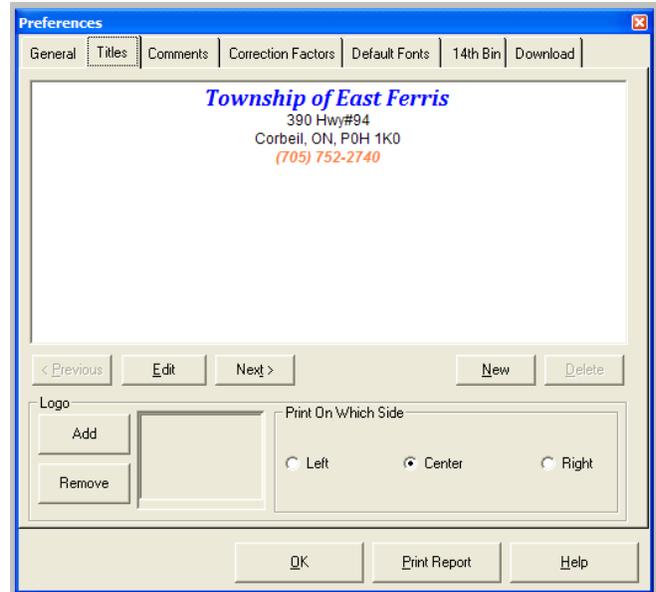
## **PART 4**

### ***Importing Data and Basic Reporting***

#### **Setting a personalized header for reports**

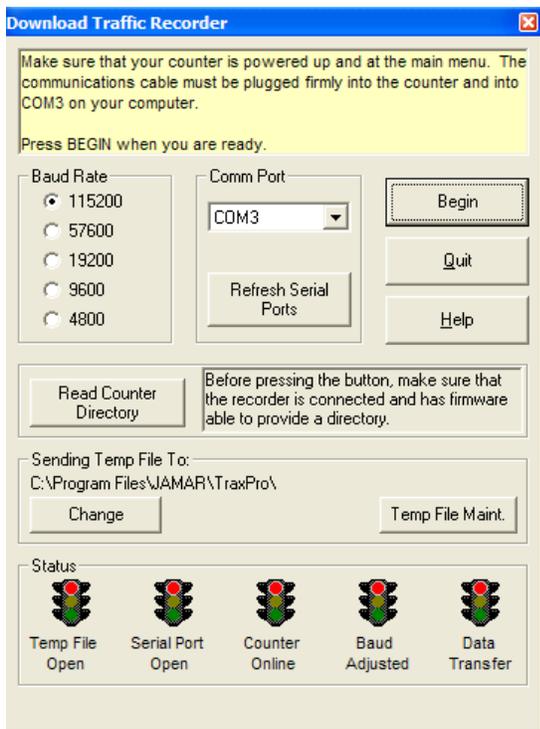
- Click File/Preferences
- Title Tab

By changing these setting, you will now have a personalized header that will appear on all of your quick or detailed reports.

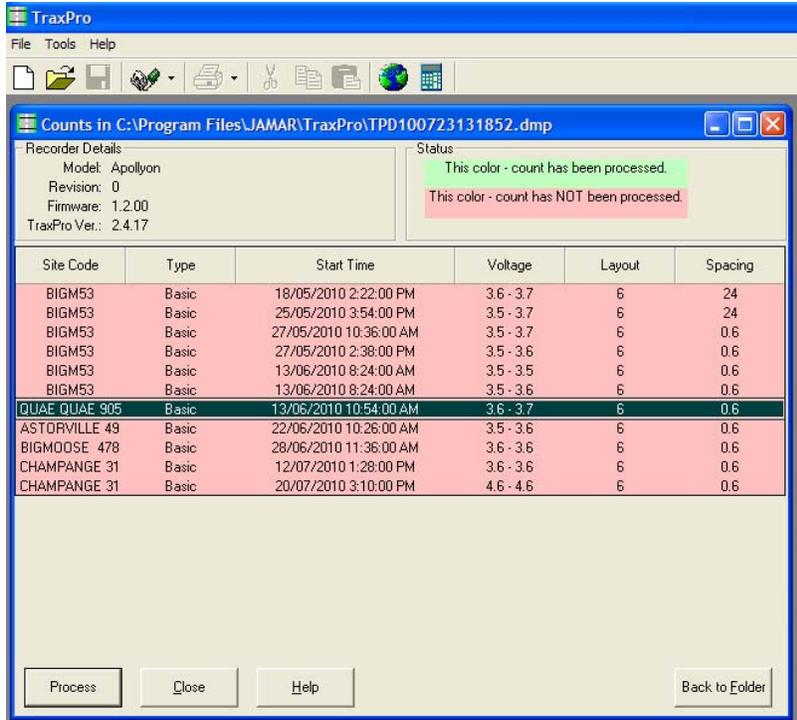


### **Importing Data**

- Click File/Acquire/ TRAX-JPDA/Read TRAX Counter
- Choose the USB port that corresponds, than click Begin



- Process the site code(s) that refer to your study
- Your raw data will now be saved.



**Note: By processing your data you are transferring the information from the counters and saving your files onto your computer.**

### USB Flash Drive importing

Alternatively, you can use the USB flash drives provided to extract data from the counters at any given point during your study. This method would allow you to leave the counters installed and returning the data to the office for analysis.

- Insert the USB drive in the port on the counter
- From the main Menu, TAB to "Utils" press "DO"
- TAB until Download Data flashes, Press "DO".
- Highlight download from USB and press "DO".

In order to import and process the data in TRAX pro:

- Click File/Acquire/ TRAX-JPDA/Read USB

## Basic Data

When opening your files the first menu you will see should have the following tabs:  
Processing Options/Sensor Layout/Advanced functions

For basic reporting, the default selections in this menu are sufficient

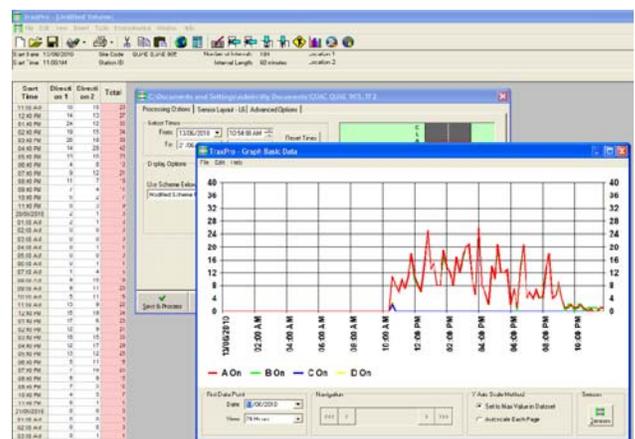
The screenshot shows the TraxPro software interface. On the left is a data table with columns for Start Time, Direction 1, Direction 2, and Total. On the right is a dialog box titled 'C:\Documents and Settings\Admin\My Documents\QUAE QUAE 905.TF2' with tabs for Processing Options, Sensor Layout - L6, and Advanced Options. The Processing Options tab is active, showing 'Select Times' (From: 13/06/2010 10:54:00 AM, To: 21/06/2010 12:05:19 PM) and 'Display Options' (Use Scheme Below To Classify: Modified Scheme F). A vertical bar chart shows 'CLASSIFY' with red and green lines. Below the chart is the text 'L6 - 2 Tubes Class, 2 Direction' and a 'Change Layout/Sensor Spacing' button. At the bottom of the dialog are buttons for Save & Process, Edit Header, Export, Plot Data, Graph Data, Help, and Cancel.

Start Time	Directi on 1	Directi on 2	Total
11:00 AM	10	10	20
12:00 PM	14	13	27
01:00 PM	24	12	36
02:00 PM	19	15	34
03:00 PM	20	18	38
04:00 PM	14	28	42
05:00 PM	13	10	23
06:00 PM	4	8	12
07:00 PM	9	12	21
08:00 PM	11	7	18
09:00 PM	7	4	11
10:00 PM	5	2	7
11:00 PM	6	3	9
20/06/2010	2	1	3
01:00 AM	2	1	3
02:00 AM	0	0	0
03:00 AM	0	0	0
04:00 AM	0	1	1
05:00 AM	0	0	0
06:00 AM	0	1	1
07:00 AM	1	4	5
08:00 AM	9	10	19
09:00 AM	9	11	20
10:00 AM	5	11	16
11:00 AM	13	9	22
12:00 PM	15	19	34
01:00 PM	17	6	23

To determine if there were any errors in the data:

### Select graph data button

- The default view is 24 hours; you can click the drop down menu to extend the graph.
- The Red and Green lines should follow the same pattern.
- If the sensor hits do not match up as expected, then there was probably a problem with one of the tubes during the study. Close this view if tubes match correctly.



Select **Export** to produce an **excel file** to manipulate your data if you would prefer  
Click Save and Process

### Per-Vehicle Data

This new menu should appear. At the setup tab you can select the dates, times and type (volume, speed, etc) of your data that you wish to study.

Direction tab: You can change the description of the directions (ex: westbound or eastbound or North or South). By installing tube A as the most southern or eastern tube, "Direction1" will be northbound or westbound respectively.

The screenshot shows the TraxPro software interface. At the top, there is a menu bar (File, Edit, View, Insert, Tools, Environmental, Window, Help) and a toolbar with various icons. Below the toolbar, a status bar displays: Start Date: 13/06/2010, Site Code: QUAE QUAE 905, Number of Intervals: 194, Location 1: Start Time: 11:00 AM, Station ID: Interval Length: 60 minutes, Location 2:

The main window contains a table with the following data:

Start Time	Directi on 1	Directi on 2	Total
11:00 AM	10	10	20
12:00 PM	14	13	27
01:00 PM	24	12	36
02:00 PM	19	15	34
03:00 PM	20	18	38
04:00 PM	14	28	42
05:00 PM	13	10	23
06:00 PM	4	8	12
07:00 PM	9	12	21
08:00 PM	11	7	18
09:00 PM	7	4	11
10:00 PM	5	2	7
11:00 PM	6	3	9
20/06/2010	2	1	3
01:00 AM	2	1	3
02:00 AM	0	0	0
03:00 AM	0	0	0
04:00 AM	0	1	1
05:00 AM	0	0	0
06:00 AM	0	1	1
07:00 AM	1	4	5
08:00 AM	9	10	19
09:00 AM	9	11	20
10:00 AM	5	11	16
11:00 AM	13	9	22
12:00 PM	15	19	34

Overlaid on the table is a dialog box titled "Untitled - Per Vehicle Sorting from Basic Data". The dialog has tabs for "Setup", "Directions", "Filters", "Select Classes", and "View Database". The "Setup" tab is active and contains the following options:

- Select Times:** From: 13/06/2010 10:54:00 AM, To: 21/06/2010 12:05:19 PM. A "Reset Times" button is present.
- Interval Length:** 60 Minutes.
- Select Count Type:** Across the Top: Volume, Down the Side: Next Interval.
- Save Options:**
  - Keep this as a temporary file and delete it upon exiting TRAXPro
  - Save this temporary Per-Vehicle file permanently before continuing.

At the bottom of the dialog are buttons for "Process", "Help", "Edit Header", "Return to Basic", "Export", "Stat Print", and "Exit".

The **Stat Print** Button will allow you to print off quick analysis of the basic data. Once in that menu you can select specific times, reports and the statistics you would like to include.

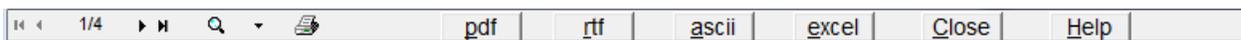
The screenshot shows the TraxPro software interface. At the top, there is a menu bar (File, Edit, View, Insert, Tools, Environmental, Window, Help) and a toolbar with various icons. Below the toolbar, a status bar displays: Start Date: 13/06/2010, Site Code: QUAE QUAE 905, Number of Intervals: 194, Location 1: ; Start Time: 11:00 AM, Station ID: , Interval Length: 60 minutes, Location 2: .

The main data area contains a table with the following columns: Start Time, Directi on 1, Directi on 2, and Total. The data is as follows:

Start Time	Directi on 1	Directi on 2	Total
11:00 AM	10	10	20
12:00 PM	14	13	27
01:00 PM	24	12	36
02:00 PM	19	15	34
03:00 PM	20	18	38
04:00 PM	14	28	42
05:00 PM	13	10	23
06:00 PM	4	8	12
07:00 PM	9	12	21
08:00 PM	11	7	18
09:00 PM	7	4	11
10:00 PM	5	2	7
11:00 PM	6	3	9
20/06/2010	2	1	3
01:00 AM	2	1	3
02:00 AM	0	0	0
03:00 AM	0	0	0
04:00 AM	0	1	1
05:00 AM	0	0	0
06:00 AM	0	1	1
07:00 AM	1	4	5
08:00 AM	9	10	19
09:00 AM	9	11	20
10:00 AM	5	11	16
11:00 AM	13	9	22
12:00 PM	15	19	34
01:00 PM	17	6	23

Overlaid on the table is the 'Quick Analysis' dialog box. It has a 'Select Times' section with 'From' (13/06/2010 10:54:00 AM) and 'To' (21/06/2010 12:05:19 PM) fields, and a 'Reset Times' button. The 'Select Options' section includes checkboxes for 'Daily Reports', 'Summary Page', 'Combine Directions', 'Miscellaneous Statistics', 'Include Speed Stats', 'Include Class Stats', and 'Include Gap Stats'. Below these are dropdown menus for speed statistics ('25 to 121+ by 8 KPH') and class statistics ('Modified Scheme F'). At the bottom of the dialog are buttons for 'Print', 'Exit', 'Help', 'Select Font', and 'Page Setup'.

- Print or save as .pdf to retain a digital copy.



After printing your desired statistics and selecting proceed you are able to enter the edit screen for further analysis. This is where you can print detailed statistics that will include, directional and hourly traffic counts, Average Daily Traffic Counts (ADT) and A.M and P.M peak volume reports.

## Printing Reports

Once you are ready to produce reports you may select:

- File/Print
- Choose dates and times for the report.
- Choose (60 minutes, 7 days, Week Average, Dates – Landscape).
- Print or save as .pdf to retain a digital copy.

ite Code: MW1      Number of Intervals: 548      Location 1:

Station ID:      Interval Length: 60 minutes      Location 2:

**Volume Reports**

General | Headings - Page Number | Correction Factor | Overlap | Pictures | Environmental

Select Times

From: 14/06/2011 3:00:00 PM

To: 07/07/2011 10:00:00 AM

60 Minute, 7 Days, Week Average, Dates - Landscape

Preview

**Print Preview**

pdf | ttf | ascii | excel | Close | Help

The Township of Bonfield

Bonfield, ON P0H 1E0

288 May 831

Site Code MW1

Station ID:

Latitude: 0 0.000 South

Bin	14-Jun-11		15-Jun-11		16-Jun-11		17-Jun-11		18-Jun-11		19-Jun-11		20-Jun-11		Week Average	
Time	Direction 1	Direction 2	Direction 1	Direction 2												
1200 All	-	-	2	0	0	0	0	0	0	2	2	2	4	0	2	2
0100	-	-	3	2	2	0	0	0	0	2	0	0	0	0	0	1
0200	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400	-	-	2	0	2	0	2	0	2	0	2	0	0	5	0	2
0500	-	-	3	0	0	0	0	0	1	0	0	0	4	4	1	2
0600	-	-	17	6	19	4	29	1	8	5	4	4	19	4	16	4
0700	-	-	35	23	31	8	47	20	38	29	15	4	37	17	21	18
0800	-	-	87	89	88	83	86	84	95	49	39	23	82	29	64	49
0900	-	-	78	47	91	70	127	89	116	86	45	32	81	81	90	84
1000	-	-	110	68	116	100	114	91	101	114	53	46	72	69	99	81
1100	-	-	181	197	104	105	138	117	164	138	119	30	107	110	128	108
1200 All	-	-	182	114	119	119	154	164	141	110	38	81	107	184	160	121
0100	-	-	87	110	122	89	128	97	163	121	107	60	111	103	114	97
0200	-	-	103	38	95	83	171	136	103	103	82	84	124	102	114	100
0300	108	101	127	73	84	109	130	125	150	104	69	64	131	93	116	96
0400	128	197	131	118	130	117	186	112	121	129	85	78	130	113	128	111
0500	108	88	119	80	123	90	118	100	97	109	48	80	101	100	91	
0600	80	40	89	81	83	72	87	69	46	27	39	28	30	33	32	43
0700	31	42	44	34	52	42	80	60	29	35	28	28	44	42	41	43
0800	34	42	41	33	37	34	81	35	16	15	26	19	17	25	32	30
0900	20	8	16	31	16	16	19	32	19	26	10	8	12	12	16	19
1000	7	8	11	5	13	9	6	4	11	5	5	3	2	2	5	7
1100	3	2	2	3	0	0	0	0	4	0	0	2	5	2	2	2
1200	48	418	1025	1108	1332	1155	1838	2884	1885	1238	908	702	1200	2390	1050	1097
Day	804	418	1025	1108	1332	1155	1838	2884	1885	1238	908	702	1200	2390	1050	1097
All P&S	1100	1100	1200	1000	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Vol	131	107	116	108	139	117	164	136	119	80	107	110	108	109	109	109
PHI P&S	16:00	16:00	16:00	16:00	16:00	14:00	12:00	13:00	16:00	13:00	14:00	12:00	12:00	12:00	12:00	12:00
Vis	128	107	132	118	131	117	171	154	153	129	107	84	137	152	130	121