AUTO - TRAX ™

Traffic Count

Traffic management system

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Welcome to the Traffic Count User Manual -a complete guide to exploring and using the Auto-Trax Traffic Count traffic management system.

Traffic Count is a combination of both hardware and PC-based software, with a strong emphasis on data analysis and traffic pattern interpretation.

In connection with the Ingram-Technologies speed signs with the data collection option all the tools necessary to regulate and manage traffic flow and distribution in a given municipality can be accplished.

The Traffic Count philosophy is to record and store each vehicle count - both approaching and receding from the speed sign. Data collection is unconstrained by units of measure and classification schemes as data is analyzed from raw data collection files. With Traffic Count traffic management program, traffic analysis and reports need not be a time consuming and tedious process. Complete survey data is displayed by a single click of the mouse. Graphic displays of bar charts, traffic flows, percentage and time graphs are also a single click of the mouse. In total, one click reporting is a reality with the new Traffic Count program.

Terms and Conventions Used in This Manual

- Comm 1, 2, - has reference to the serial port located on the back of your portable or your desktop computer. This port is usually used for communication devices, mouse connections, and occasionally some types of printers. If it is not identified by name (comm 1, comm 2) then you can identify it as a small rounded corner plug with nine male pins.

Formatting

Instructions on using the software will often refer to a particular menu item in a given menu. For example, when you see **REPORTS >> 85th Percentile >> Both Directions,** goto the **REPORTS** menu, select **85th Percentile** followed by **Both Directions**.
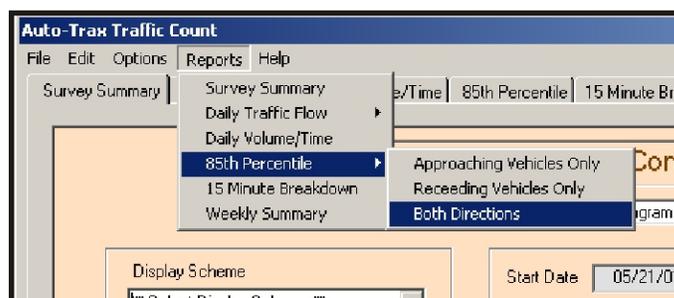
Autorun Menu: Insert the Traffic Count CD into the computer CD reader to launch the menu. If the CD does not auto-load, double click on **My Computer** and explore the CD in the drive. Double-click on **setup.exe** to run/install the menu program.

Bypass menu: you can bypass the menu and just install the desired programs by accessing the CD and double-clicking on the program you wsh to install. Select **My Computer >> CD Drive >> Explore... Autorun >> Installs >> Program to Install**

CD Program Content:

Setup - a small application menu to simplify the installation of the Traffic Count programs.

AT Download *(pronounced A-T-Download)* - use this program to retrieve data from the roadside unit and copy data to your process computer.

Traffic Count: - this is the main process program for data analysis and reporting**.**

Acrobat Reader: - Adobe product used to read Acrobat PDF files. The Traffic Count manual is in PDF format.

TC Manual: Adobe PDF format of the operation manual for Traffic Count.

Package Contents:

Your package should include:
- This printed manual
  (An Adobe "PDF" format version of the manual is included on the
    enclosed CD)
- A CD Rom disc containing the programs and manuals
- Download cables (included with the sign / trailer)
  (For connecting the remote speed sign to the download computer -
    Cb4 to Db9 - this is only necessary where the sign is not equipped
    with a removable data chip)

Technical Support:

Technical support is only provided to registered users of Ingram Technologies porducts. Our records will confirm current users of the data collection program for the Ingram Technologies speed signs or speed trailers.

Technical support is first provided by Email at "support@ingram-tech.com". We will try and resolve any problems or concerns within 24 hours of your email contact with us.
If your problem is immediate and cannot wait for an email response, you may contact us at (435) 722-2597 from 9:AM to 4:PM weekdays (Mountain Time Zone)

Auto-Trax

AT Download

Unloading Data From the Roadside Unit

The unload process allows you to transfers data from the roadside units memory bank to your PC. Data is downloaded in a proprietory data format that is recognized by the Traffic Count program. The data can then be transferred to any computer or location where it can be processed by the Traffic Count program.

Data File Location

The suggested file location is based by default on the install directory where the Traffic Count software is installed. Traffic Count by default looks to its own installation directory for raw <.atx> data files.

Naming File Conventions

For the download raw data file from the roadside unit, a name that suggests the survey location is suggested. ATDownload will automatically supply the proper <.atx> filename extension.

The Unload Process

There are two methods to retrieve data from the Ingram Technologies roadiside speed sign units. The first method would be to attach a serial cable from the host computer directly to the speed sign and download the data via the serial port. The second is to remove the data chip* from the sign and read the data via a card reader to your process PC.
 *(This option is available only with the new generation Ingram Technologies speed signs)

Communicating With the Roadside Unit

ATDownload communicates with Ingram-Technologies roadside units via a standard PC serial communications port and the supplied serial communications cable. This requires a spare 9-pin communications port on the PC you intend to use with Traffic Count.
 If necessary you can use a standard 9-pin to 25-pin adapter to use a 25 pin communications port. Avoid using an adapter that was supplied with a mouse, however as these usually do not contain all the required connections. An alternative is to place your mouse on the adapter which will free up your 9-pin port.

Setting Up The Download

To set up your system for downloading remote sign data, you must first connect the radar sign to your download computer with the serial cables supplied with your data collection package.. Connect the CB4 cable with the 2 wires to the sign and the other Cb4 end of the cable to the power jack on the trailer box. Next connect the Db9 plug to the #1 comm port on the computer you plan to use for the download. Usually this would be a laptop computer. To perform a download of data, you must first have the program "AT Download" installed on this computer. You will also need to connect a standard comp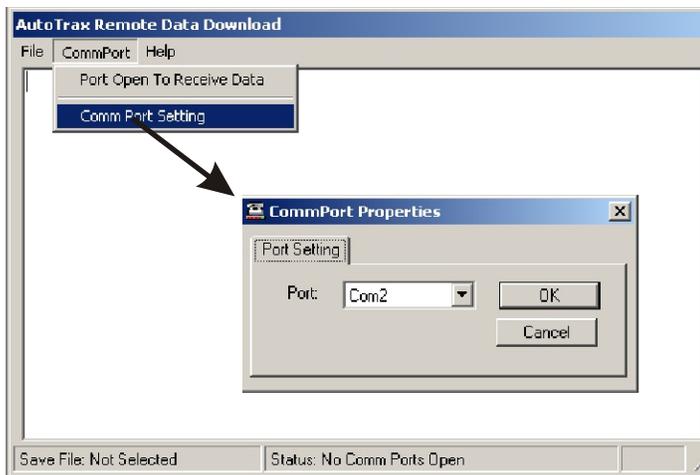uter keyboard (supplied with the download kit) to the keyboard input of the sign to allow activation of the download process.

Radar Sign

CB-4

DB-9

CB-4

12VDC Power Supply

Orientation notch   **Plug End View**

CB-4   **DB-9**
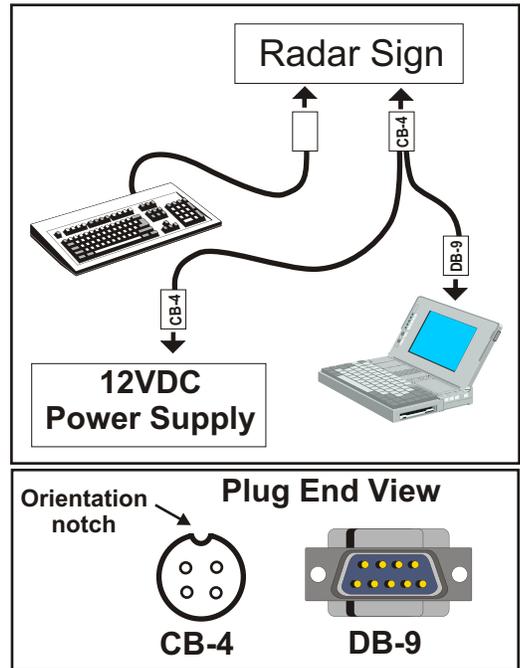
Alternate "SSF Reader": If you have the newer sign with removable data chip, refer to the addendum before running the Download Program

Running the Download Program (ATDowlnoad)

Step 1 Select an available comm port on the download computer by clicking on **ComPort >> Comm Port Setting**

AutoTrax Remote Data Download
File   CommPort   Help
Port Open To Receive Data
Comm Port Setting

CommPort Properties
Port Setting
Port: Com2   OK
Cancel

Save File: Not Selected   Status: No Comm Ports Open

Select com 1-4 from the drop down list of available ports. If there is a conflict with the port, a message box will appear suggesting that you choose another port.

Click on **CommPort >> Port Open to Receive Data**. If the port is activated, a check mark will appear next to the selection and the **Status** frame will show "Comm Port open for download". You will need to click on ComPort again to see the check mark. Clicking on **Port Open to Receive Data** again will remove the check mark and turn the port off.

Step 2 **Select a SaveFile location and name**.
Click on **FILE >> OPEN LOG FILE**. A dialog box will appear that will allow you to select a file name for the download data.

<Filename> It is recommended that you choose a file name that is suggestive of the survey location. By default, the program will automatically supply the <.atx> file name extension.
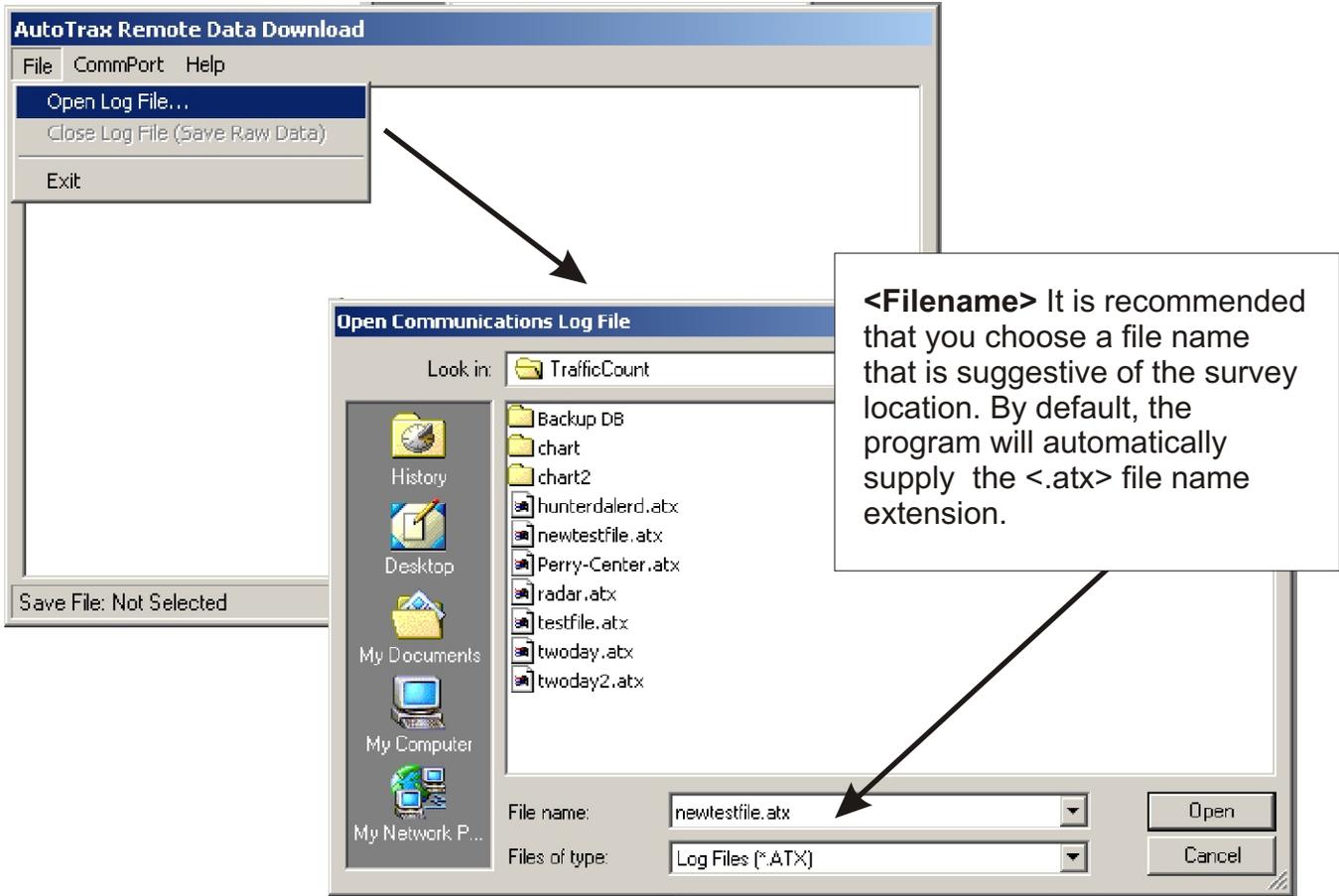
Step 3 **Download the Data**

First. Supply power to the roadside unit and wait for the test cycle to complete. When the left digit begins to flash, the sign is ready to begin downloading data via the attached cable to your computer.

Second. Press the #7 key on the radar sign keyboard and the download will begin. You will see all the raw data in the terminal window during the download process.
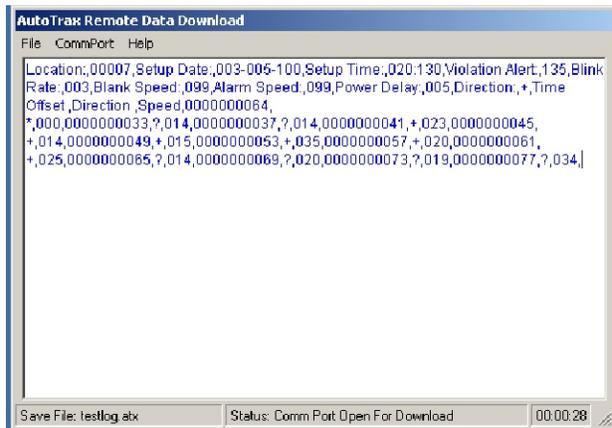
Third. When the data stream ends you will see a note at the end of the data that says "Reading Count:0789" where 0789 is the number of vehicles recorded.

Fourth. At this point the data is fully downloaded and you can turn off the sign. All that is left to do is save the data to the hard drive of the computer.

Step 4 Click of **File >> Close Log File (Save Raw Data**). All the data that has just been downloaded into the terminal screen will be saved to the file you previously selected. If you didn't select to open a log file first, you cannot save the data and will have to download the data again. Just select **File >> Open Log File** by going to step 2 and starting again.

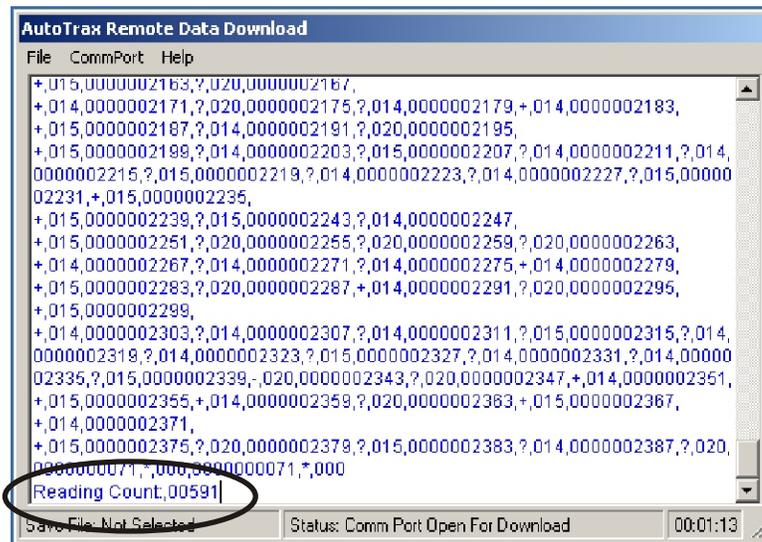> **NOTE:** Unloading data from the roadside unit does not remove the data from the memory unit. All data remains in memory until the next setup of the roadside unit is performed. Data can be unloaded multiple times if necessary until the next setup.

Step 5 After you have saved the download file, you can take your computer back to your process station PC and copy this saved <.atx> file to the process computer running Traffic Count. Copy the file <*.atx) into the <u>same directory</u> that has the Traffic Count program.

The raw data file will be formatted and saved to the process computer database via Traffic Count traffic management system for further analysis and reporting.

> NOTE: Raw data files could be used in any application that can accept comma delimited files.

Auto-Trax

Traffic Count

Process "Raw Data" vs "Open Data File"

Raw data files are a collection of time/speed/direction with no summarized structure and are not meaningful without further processing. On the other hand, data files are fully structured, summarized and categorized for display and analysis.

To "open" any survey for analysis or reporting you must first process the raw sign data into the Traffic Count database. Once the data is filtered into the database, multiple types of analysis and reports can be performed against the data.

Opening a "Raw" data file to process.

Select **File >> Process Raw Data Files** from the drop down menu or alternatively click on the "Process raw data" button on the opening screen of Traffic Count. Clicking on either choice will activate the file choice window.

Highlight a "raw" data file by clicking on the name desires. After the file is highlighted, click on Load File button to load this raw data file into the computer memory. After the file is loaded into memory, you are then able to proceed with the process routine to make the chosen file available to the Traffic Count data analysis program.

The open filter will look to the install directory path for any available <.atx> files to process.

Note: You can also use the **File >> Process Raw Data** to delete any unwanted "raw" data files from your system
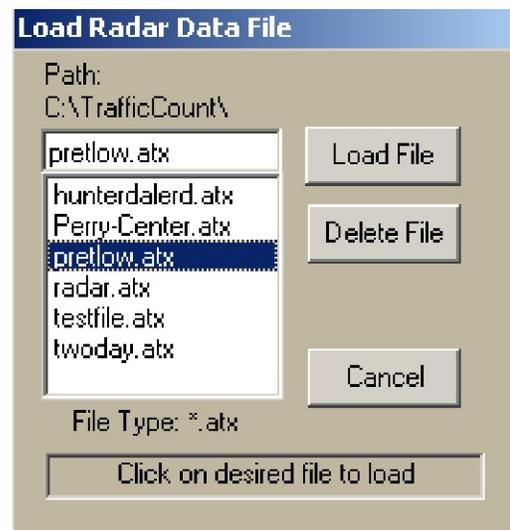
Processing a "Raw" data file.

Once a "RAW" data file is loaded into memory, you must check the header file for accuracy as well as supply the missing information needed to complete the process.

Date & Time: All survey calculations are made from the start date and start time. If these are incorrect or off, all the survey information will be inaccurate and of little use. If you detect any errors, go to "Change Header" tab and make any corrections there. Your corrections will affect only the data file in memory and will not affect or change the stored data file from which it was read.

Location Code: This is a numerical value placed in the header of the sign data at the time of setup. It is useful and used as a reminder of where the sign deployed.

MPH/KPH: By default, the last used setting will display. It is important to change the display designation to match the radar settings that were used for the survey.

The "batch number" is taken from the date and the "trailer ID". If more than one file is processed on a given date, increment the trailer ID ahead to a higher letter to create a unique batch number.

Process Raw Data

| Process Raw Data | Modify Header | Filter Raw Data | Modi |

Colored fields must be filled in before field data can be imported.

Survey Start Date: 12/30/2002   Trailer ID: A

Survey Start Time: 07:33   Batch Number: 123002-A

Radar Mode Setting: KPH   Location Code: 00001

Survey Location: Pretlow & Henderson

North East   Zone: Highway

Filter..

ed Limit: 025   Headway: 0

Header   Range: 10 to 100

dar Data to The Database>>   Canc

Header information. This data is taken directly from the raw data file and is used for all calculations that apply to the survey and the database. It is very important that this header information is accurate and complete.

Fields in buff color are to be filled in by the operator of the download process.

Process: When all settings are correct then press Process Radar Data to The Database>>. A status bar will show the progress. This may take several minutes depending on the size of the Raw data file.

Modify Header: If you encounter any errors in the header, you may change them by simply pressing "Modify Header Information". Here you may change one field or all at any time and you can repeat the process as many times as needed. Accuracy in the header is necessary for a meaningful survey.

> **CAUTION: Invalid data in these text boxes can cause the program to fail and you will have to exit and restart again.**
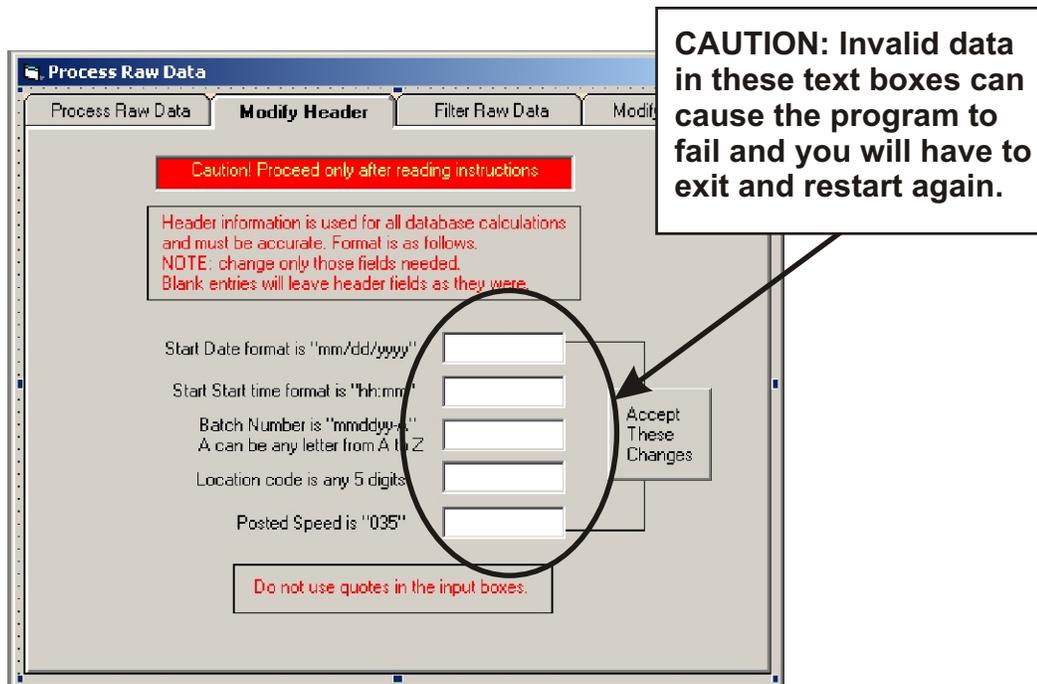
Headway Filter: Headway is the gap between successive vehicles in a traffic stream, travelling in the same direction. Excluding vehicles with a headway less than a given time removes congested traffic from a report and gives true, free flowing vehicle statistics. The default is to ignore headway.

After you select the settings desired for "Headway" and "Speed Range" you then click on the "Process Raw Data" tab to complete the process routine and write the new data to the database for further analysis.
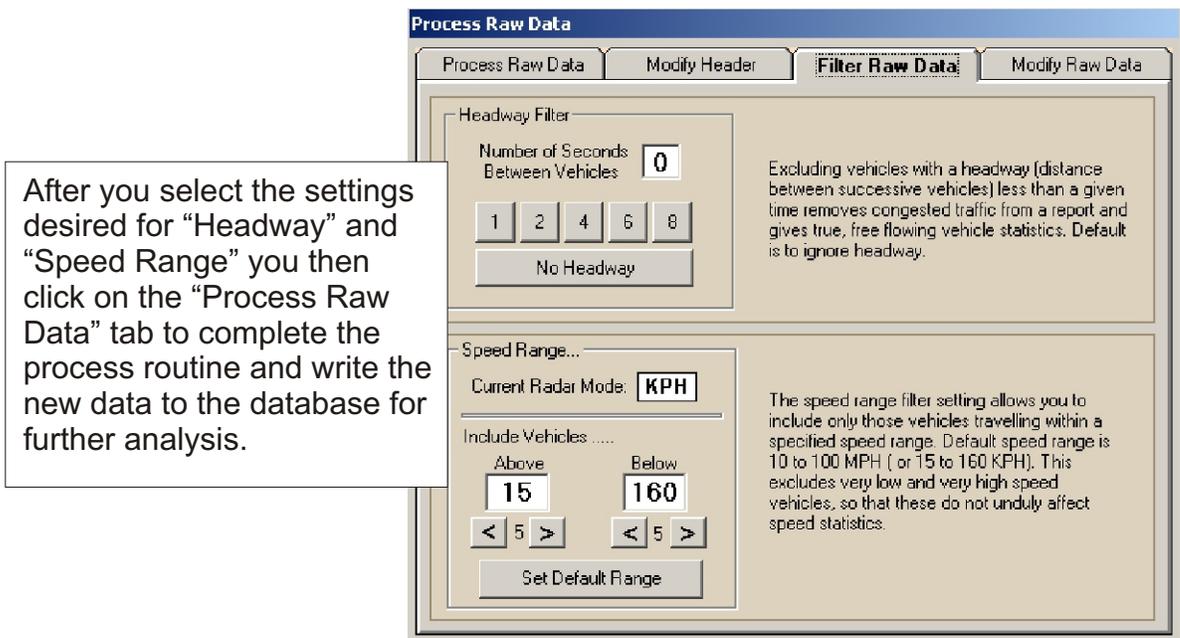
Modify Raw Data: You can use this screen to modify the "Raw" datafile in memory (it won't change the saved datafile). If there are some noticeable irregularities in the data stream here they can be corrected. Caution is advised in that the changed data may not match the process pattern and the data file will not be able to be processed.
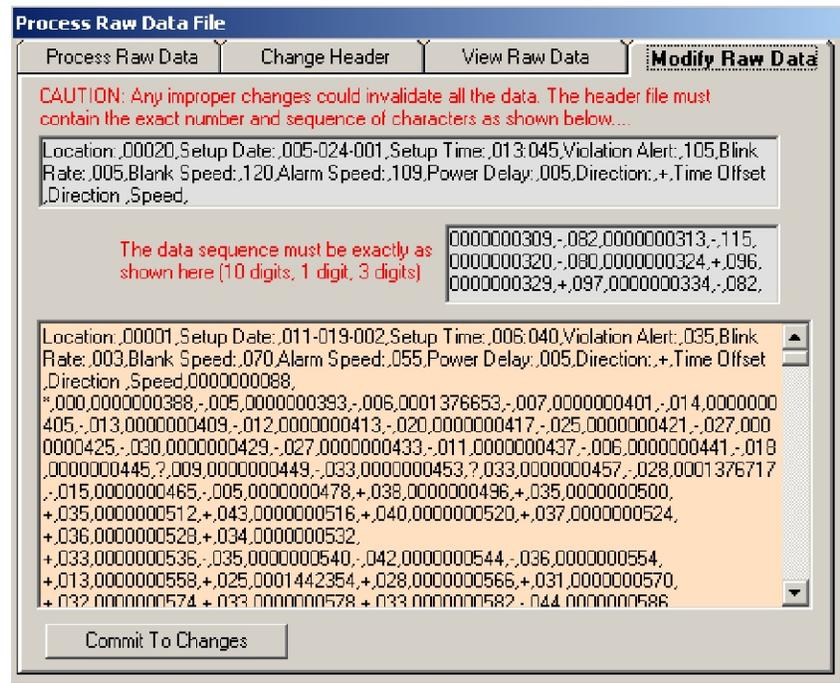
What happens after the data is "Processed"

After you have completed the process of the data the process screen will automatically close. At this point you need to "Open Study Data" if you want to view and analyze the data. Simply select **File >> Open Study Data.** A new window will appear which has a list of available surveys that you can load and view. Simply click on a desired survey and open to view the data.

Opening a Survey.
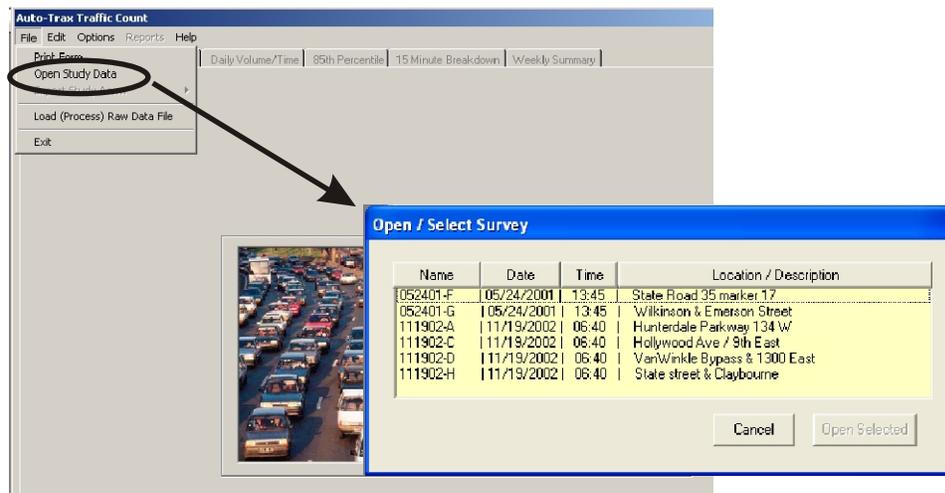
Survey Summary:

The first tab of Traffic Count will display a summary of a complete survey. All the data of the survey is available with only a few interactions of the users part.
To see the "speed bins" you must first select a "Display Scheme" from the drop down list. There are 2 schemes for KPH and 3 for MPH. After selecting a scheme, you need to select the traffic view (approaching, receding or both).

Select Survey Scheme
and
Direction of Travel

To change the document/report title, click on menu **Option >> Admin Setup**

Auto-Trax Traffic Count

File Edit Options Reports Help

Survey Summary | Vehicle Speeds | Daily Volume/Time | 85th Percentile | 15 Minute Breakdown | Weekly Summary

Hanksville Traffic Control Agency

Reports Prepared By: George Ingram

Display Scheme

65 to 120 by 5 KPH
35 to 90 by 5 KPH
65 to 120 by 5 KPH
- Approaching Vehicles Only
- Receeding Vehicles Only
- Both Directions

Start Date	05/21/01	Start Time	01:45 PM	Batch #	052401-A
End Date	05/25/01	End Time	06:41 PM	Posted Speed	105
Zone	Highway	Total Time	0 Days, 4 Hrs, 56 Min		
Location	SPECIAL TEST FILE			Direction	North

Speed	1 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85 - 89	90 - 94	95 - 99	100 - 104	105 - 109	110 - 114	115 - 119	120 - 999
Volume	58	29	44	65	157	304	440	424	286	128	44	11	5
% of Total	2.9%	1.45%	2.2%	3.25%	7.85%	15.21%	22.01%	21.21%	14.31%	6.4%	2.2%	.55%	.25%

Unknown:	373	Approaching:	1999	Receeding:	1777	Total Surveyed:	4149

Speed Statistics   Posted Limit 105

At/Under Limit	Number Over Limit	Average Speed	Mean Average	Maximum Speed
1843	156	92.1		181
92.2%	7.8%	Percent of total (approaching)		

10 KPH Pace

Pace Speed	82 to 102
Number in Pace	1467
Percent in Pace	73 %
85th Percentile	108

Number Exceeding Limit

Speed	105+	115+	125+	Total
Number	142	14	0	156
Percent	7.1%	.7%	.%	7.8%

View Speeding Vehicle Profile

Print Report

You can print a report of the above screen in two ways. Either click on Print Report button or select menu **Reports >> Survey Summary**

Speed Profile:

Clicking on View Speeding Vehicle Profile will bring up this pop up screen. From this you can easily see a pattern of speeders as to the time of day, the direction and the speed they are traveling. Like any other reports, this screen can easily be printed by clicking on the "Print This Profile" at the bottom of the screen.

Vehicle Speeds:

Displayed is a graph of all the vehicles in the selected survey. You can select vehicles approaching the sign, vehicles receding from the sign or vehicles traveling in both directions.

The green portion of the graph shows all vehicles that are under the speed limit, the black bar is the speed limit and the red bars show the number of vehicles that are above the speed limit.
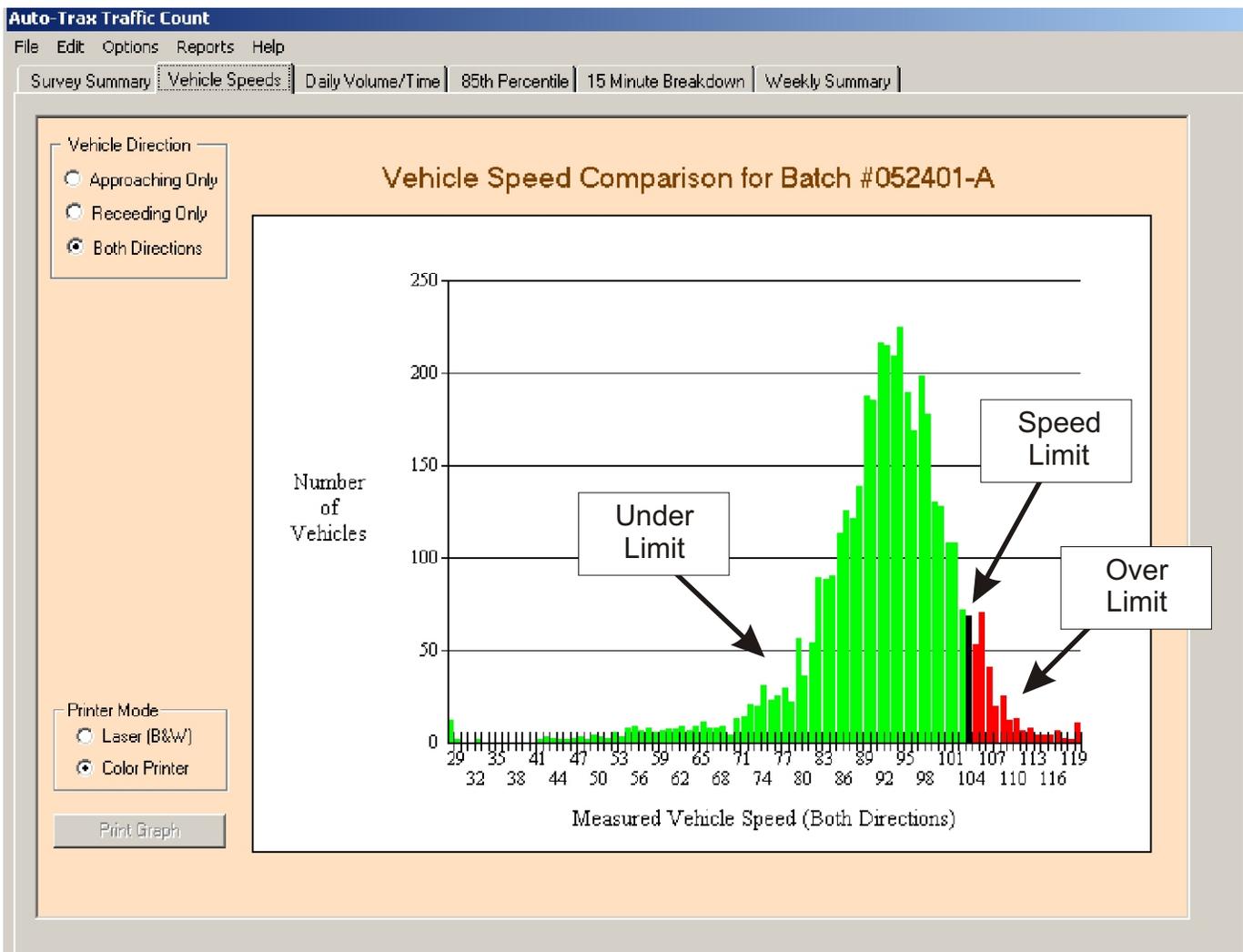
Printing the graph:

To print this graph to a printer, simply click on "Print Graph" button at the bottom of the screen. You can also select **Reports >> Vehicle Speeds** and select the direction that you want to send to the printer.

To aid in viewing the graph on a black and white laser printer, select **"Printer Mode"** located just above the Print Graph button.

Daily Volume / Time:

To view a Vehicle Volume/Time graph you must first select a direction of travel. You can choose approaching, receding or both as a direction. After a direction is chosen the Date box becomes active and you can then choose a day for the chart. A drop-down list will show all the days available for a given survey. Volume/Time graphs display a complete 24 hour day and you can print a graph for each day of your survey.

Printing the graph:

To print this graph to a printer, simply click on "Print Graph" button at the bottom of the screen. You can also select **Reports >> Daily Volume / Time** and select the direction as well as the date that you want to send to the printer.

85th Percentile Graph:

Displayed is a graph of all the vehicles in the selected survey showing the 85th percentile as well as the pace range. You can select vehicles traveling in both directions, vehicles approaching the sign or vehicles receding from the sign. The green portion of the graph shows all vehicles that are traveling in the pace, and the red bar shows the speed at which the 85th percentile falls. Vehicles above and below the pace are shown in light blue.

Printing the graph:

To print this graph to a printer, simply click on "Print Graph" button at the bottom of the screen. You can also select **Reports >> 85th Percentile** and select the direction that you want to send to the printer.

To aid in viewing the graph on a black and white laser printer, select **"Printer Mode"** located just above the Print Graph button.

15 Minute Breakdown:

To view a 15 minute traffic breakdown you must first select a direction of travel that you want to see. You can select approaching vehicles, receding vehicles or vehicles in both directions. After selecting a direction, you can select a date you want to view. The chart will show one complete day of data only. The data will show the number of vehicles traveling in each 15 minute period and after each four 15 minute blocks an hour total is shown. Analysis as to peak flow and percentages is automatically calculated.

Auto-Trax Traffic Count

File   Edit   Options   Reports   Help

Survey Summary | Vehicle Speeds | Daily Volume/Time | 85th Percentile | 15 Minute Breakdown | Weekly Summary |

Date & Direction
5/24/2001 ▼

○ Approaching Only
○ Receeding Only
● Both Directions

AM Analysis
AM Total × N/A
Peak Hour × N/A
Peak Flow × N/A
Peak % of AM × N/A
Peak % fo 24 Hr × N/A

PM Analysis
PM Total × 11328
Peak Hour × 15:00 - 15:59
Peak Flow × 2373/hr
Peak % of PM × 20.95%
Peak % fo 24 Hr × 20.95%

[Print Graph]

Time AM	A	R	Hour Total	Time PM	A	R	Hour Total
00:00 - 00:14	×	×		12:00 - 12:14	×	×	
00:15 - 00:29	×	×		12:15 - 12:29	×	×	
00:30 - 00:44	×	×		12:30 - 12:44	×	×	
00:45 - 00:59	×	×	×	12:45 - 12:59	×	×	×
01:00 - 01:14	×	×		13:00 - 13:14	×	×	
01:15 - 01:29	×	×		13:15 - 13:29	×	×	
01:30 - 01:44	×	×		13:30 - 13:44	×	×	
01:45 - 01:59	×	×	×	13:45 - 13:59	234	189	423
02:00 - 02:14	×	×		14:00 - 14:14	303	252	
02:15 - 02:29	×	×		14:15 - 14:29	366	222	
02:30 - 02:44	×	×		14:30 - 14:44	267	267	
02:45 - 02:59	×	×	×	14:45 - 14:59	267	309	2253
03:00 - 03:14	×	×		15:00 - 15:14	315	279	
03:15 - 03:29	×	×		15:15 - 15:29	327	264	
03:30 - 03:44	×	×		15:30 - 15:44	369	234	
03:45 - 03:59	×	×		15:45 - 15:59	270	315	2373
04:00 - 04:14	×	×		16:00 - 16:14	261	330	
04:15 - 04:29	×	×		16:15 - 16:29	255	336	
04:30 - 04:44	×	×		16:30 - 16:44	255	303	
04:45 - 04:59	×	×	×	16:45 - 16:59	297	261	2298
05:00 - 05:14	×	×		17:00 - 17:14	318	261	
05:15 - 05:29	×	×		17:15 - 17:29	264	324	
05:30 - 05:44	×	×		17:30 - 17:44	288	315	
05:45 - 05:59	×	×	×	17:45 - 17:59	384	198	2352
06:00 - 06:14	×	×		18:00 - 18:14	309	264	
06:15 - 06:29	×	×		18:15 - 18:29	366	216	
06:30 - 06:44	×	×		18:30 - 18:44	282	192	
06:45 - 06:59	×	×	×	18:45 - 18:59	×	×	1629
07:00 - 07:14	×	×		19:00 - 19:14	×	×	

Four fifteen minute time blocks
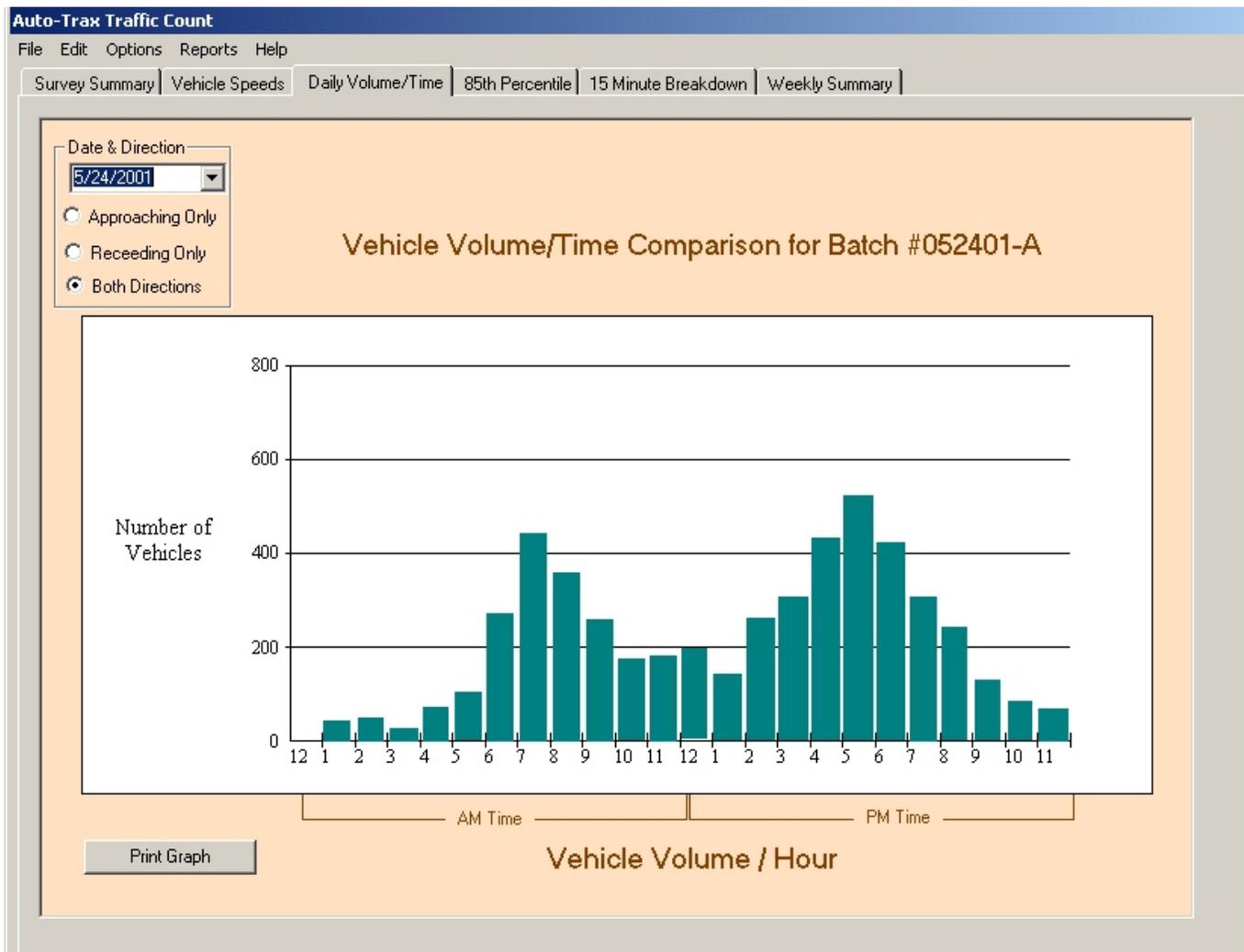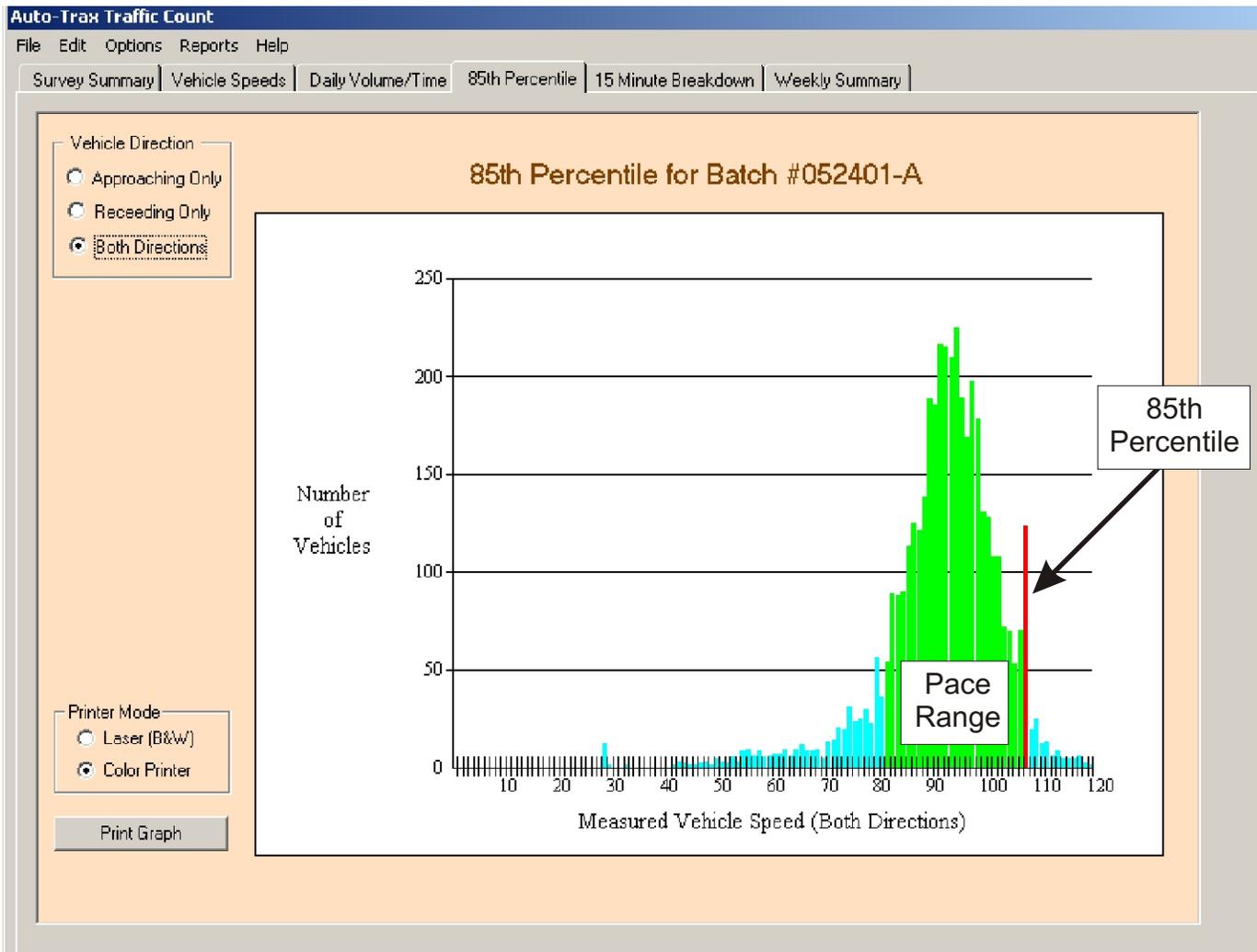
Total for one hour

Printing the graph:

To print this graph to a printer, simply click on "Print Graph" button at the bottom of the screen. You can also select **Reports >> 15 Minute Breakdown** and select the direction that you want to send to the printer as well as the desired date.

Weekly Summary:

Data is calculated on a weekly basis by clicking on "Calculate Weekly Totals". The data is calculated from the first available date in the survey and this date will be placed in the proper day of the week. The data will then flow to the end of the survey or the end of the week - whichever comes first. The data does not wrap around to Monday again and you can only display one week total data. It is suggested that surveys be set up at the first of the week and run for a one week period to obtain a meaningful traffic flow pattern.

Auto-Trax Traffic Count

File Edit Options Reports Help

| Survey Summary | Vehicle Speeds | Daily Volume/Time | 85th Percentile | 15 Minute Breakdown | Weekly Summary |

[Calculate Weekly Totals]   [Print Chart]

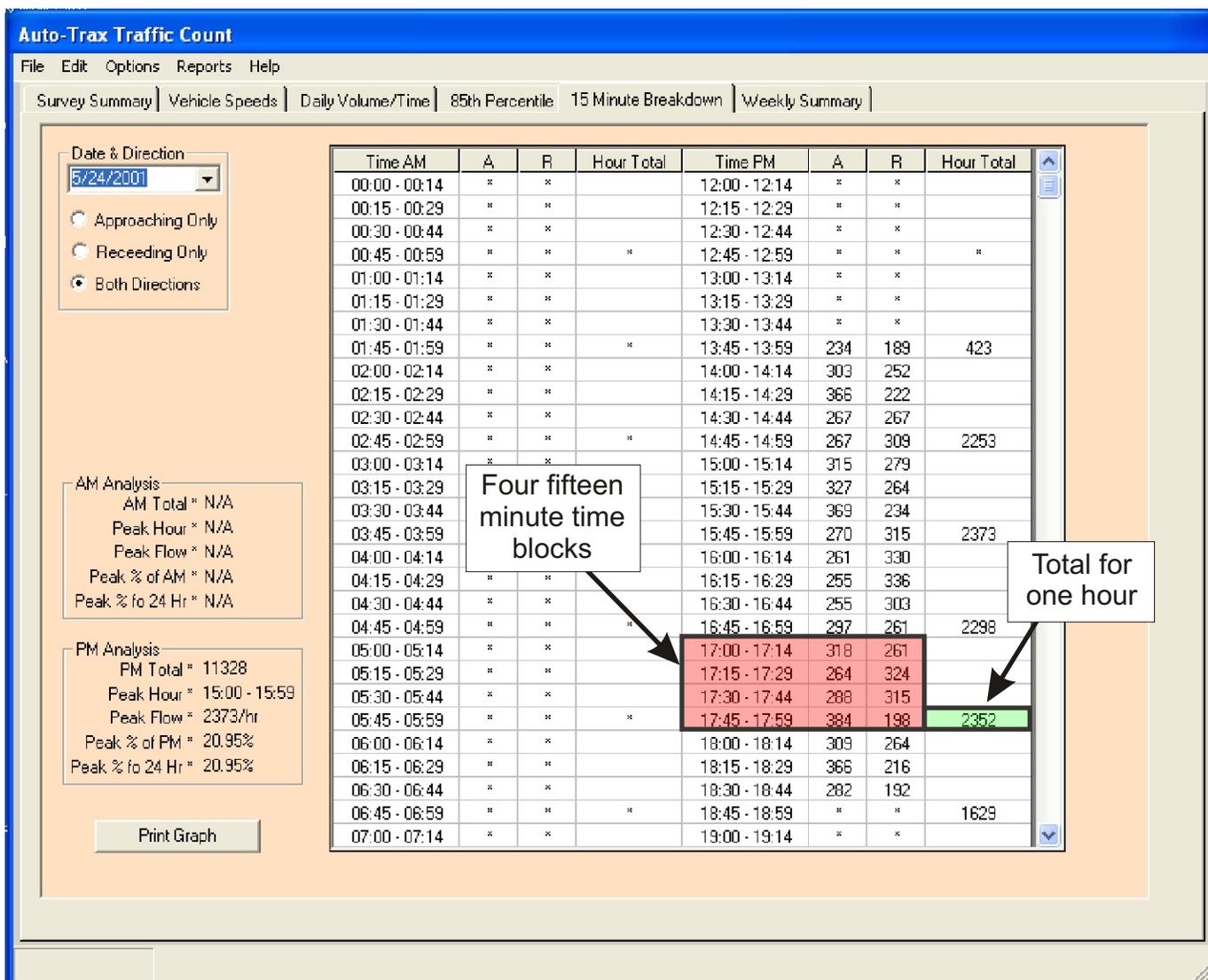| Interval	Mon-20		Tue-21		Wed-22		Thu-23		Fri-24		Sat-25		Sun-26		Weekday Avg.		Weekend Avg.	
Direction	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R
12:AM	x	x	x	x	44	33	44	33	33	48	44	48	x	x	40	38	44	48
1:00	x	x	x	x	27	33	27	33	27	33	27	33	x	x	27	33	27	33
2:00	x	x	x	x	12	18	14	18	18	18	18	12	x	x	15	18	18	12
3:00	x	x	x	x	12	8	12	8	12	8	12	8	x	x	12	8	12	8
4:00	x	x	x	x	45	13	17	13	17	13	17	45	x	x	26	13	17	45
5:00	x	x	x	x	53	77	53	35	44	67	77	35	x	x	50	60	77	35
6:00	x	x	136	155	234	132	174	110	134	132	174	132	x	x	170	132	174	132
7:00	x	x	454	265	474	344	333	265	474	356	461	265	x	x	434	308	461	265
8:00	x	x	498	344	513	321	436	321	498	444	521	321	x	x	486	358	521	321
9:00	x	x	334	312	84	343	354	353	374	323	3234	373	x	x	287	333	3234	373
10:00	x	x	344	401	361	481	362	421	321	461	327	441	x	x	347	441	327	441
11:00	x	x	444	396	329	846	379	444	444	496	339	396	x	x	399	546	339	396
12:PM	x	x	386	451	386	451	386	451	386	451	386	451	x	x	386	451	386	451
1:00	x	x	389	424	389	424	389	424	389	424	389	424	x	x	389	424	389	424
2:00	x	x	387	350	387	350	387	350	387	350	387	350	x	x	387	350	387	350
3:00	x	x	427	364	427	364	427	364	427	364	427	364	x	x	427	364	427	364
4:00	x	x	356	410	356	410	356	410	356	410	356	410	x	x	356	410	356	410
5:00	x	x	418	366	418	366	418	366	418	366	418	366	x	x	418	366	418	366
6:00	x	x	319	224	319	224	319	224	319	224	319	224	x	x	319	224	319	224
7:00	x	x	87	99	345	322	345	322	345	322	x	x	x	x	281	266	x	x
8:00	x	x	94	134	290	240	290	240	290	240	x	x	x	x	241	214	x	x
9:00	x	x	77	65	245	188	245	188	245	188	x	x	x	x	203	157	x	x
10:00	x	x	35	44	212	200	212	200	212	200	x	x	x	x	168	161	x	x
11:00	x	x	21	32	195	177	195	177	195	177	x	x	x	x	152	141	x	x
Totals	0	0	5206	4836	6157	6365	6174	5770	6365	6115	7933	4698	0	0	6020	5816	7933	4698
Combined	0		10042		12522		11944		12480		12631		0		11836		12631	
Split %	x		51.8 | 48.2		49.2 | 50.8		51.7 | 48.3		51. | 49.		62.8 | 37.2		x		50.9 | 49.1		62.8 | 37.2	

Printing the graph:

To print this graph to a printer, simply click on "Print Graph" button at the bottom of the screen. You can also select **Reports >> Vehicle Speeds** and select the direction that you want to send to the printer.

To aid in viewing the graph on a black and white laser printer, select **"Printer Mode"** located just above the Print Graph button.

Option > Admin Setup:

Traffic Count provides a simple way to modify the header of all reports as well as the title display on the main screen (Survey). Through this setup you can enter the officer responsible for the surveys and reports and have this name printed on all reports as well.

To change the agency name or address, simply highlight the text with the mouse and retype with the desired text. Changes will reflect automatically on the main screen, reports and be saved to the database.

View the list:

To view the current list of Officers, click the refresh button.

Adding an Officer:

1. Click on "Add Officer" button
2. Click on the data input box (cursor will change to an I beam)
3. Type the name of the officer as you wish it to appear on the reports
4. Press the enter key or click on the refresh list button to add the name.
The name you just entered will now be available for printed reports.

Deleting an Officer:

1. Refresh the list if necessary
2. Click on the name you want to delete (name will be highlighted)
3. Click on the delete button below the list
4. Name will be removed from database list
5. Refresh list if necessary

Backing Up Data:

Repair/Backup:

It is important to repair and backup your database on a regular basis - especially if you add and delete many surveys. To access this screen click on **Edit >> Repair & Backup Database**. From here simply click on the Repair Database and then the Backup Database buttons to perform the operation.

Restore Backup:

Clicking this button will copy the last backup of the database into the current database and will overwrite all current data with that of the last time that a backup was performed.

Replace Database:

Clicking here will erase the current database and replace it with a new empty database. All data will be lost.
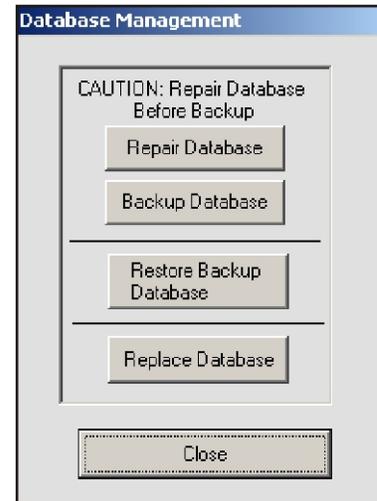
Backing Up Data:

Delete Database:

To access this screen click on **Edit >> Delete Complete Database**. From here simply click on the Delete Database, All data in the database will be erased and the database will be empty, ready for any new data to be processed.
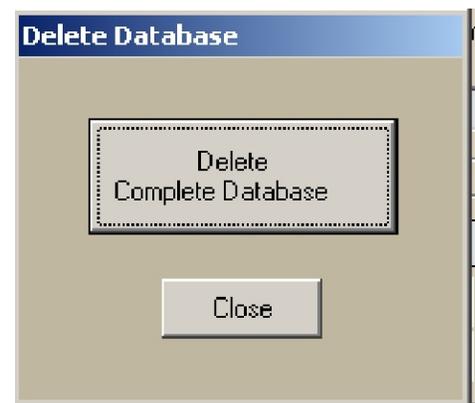
Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
Traffic Survey Summary

Batch Number: 123002-B

Start Date: 01/06/03   Start Time: 07:33 AM
End Date: 01/07/03   End Time: 12:53 PM

Zone: Highway   Direction of Travel: North East
Location: New test for Jan 2003

Display Scheme: ** Select Display Scheme **   -   Vehicles Both Directions

Speed	1 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 999
Volume	302	279	632	1577	1464	833	215	56	13	6	8	0	12
% of Total	5.6%	5.17%	11.71%	29.22%	27.13%	15.43%	3.98%	1.04%	.24%	.11%	.15%	.%	.22%

	Unknown: 0	Approaching: 2706	Receeding: 2691	Total Vehicles: 5397	

Speed Statistics		10 MPH Pace		Number Exceeding Limit				
Posted	025	Pace Speed	24 to 34	Speed	025+	35+	45+	Total
# At/Under Limit	1513	# in Pace	3229	Number	2975	829	80	3884
# Over Limit	3884	% in Pace	60 %	Percent	55.12%	15.36%	1.48%	71.97%
Average Speed	29.0	85th Percentile	34					

Speed Profile -- Batch # 123002-A   **Date: 01/06/03 -- 01/07/03**

Date	Time	025+	35+	45+	Dir
1/6/2003	7:42:21 AM	--	43	--	+
1/6/2003	7:44:33 AM	28	--	--	+
1/6/2003	7:45:13 AM	30	--	--	+
1/6/2003	7:47:12 AM	27	--	--	+
1/6/2003	7:47:35 AM	--	37	--	+
1/6/2003	7:47:57 AM	--	38	--	+
1/6/2003	7:48:43 AM	28	--	--	+
1/6/2003	7:49:14 AM	--	36	--	+
1/6/2003	7:50:43 AM	28	--	--	+
1/6/2003	7:51:53 AM	26	--	--	+
1/6/2003	7:53:51 AM	29	--	--	+
1/6/2003	7:54:06 AM	29	--	--	+
1/6/2003	7:56:10 AM	28	--	--	+
1/6/2003	7:57:51 AM	--	--	48	+
1/6/2003	7:58:00 AM	--	39	--	+
1/6/2003	7:58:25 AM	35	--	--	+
1/6/2003	7:58:35 AM	--	37	--	+
1/6/2003	7:58:45 AM	35	--	--	+
1/6/2003	7:59:40 AM	31	--	--	+
1/6/2003	7:59:53 AM	27	--	--	+
1/6/2003	8:01:10 AM	29	--	--	+
1/6/2003	8:01:23 AM	31	--	--	+
1/6/2003	8:01:35 AM	30	--	--	+
1/6/2003	8:06:17 AM	34	--	--	+
1/6/2003	8:06:31 AM	27	--	--	+
1/6/2003	8:07:00 AM	29	--	--	+
1/6/2003	8:07:12 AM	29	--	--	+
1/6/2003	8:08:31 AM	35	--	--	+
1/6/2003	8:08:43 AM	31	--	--	+
1/6/2003	8:10:45 AM	--	38	--	+
1/6/2003	8:10:55 AM	--	36	--	+
1/6/2003	8:11:06 AM	--	36	--	+
1/6/2003	8:11:19 AM	--	41	--	+
1/6/2003	8:11:29 AM	--	37	--	+
1/6/2003	8:11:39 AM	35	--	--	+
1/6/2003	8:12:50 AM	30	--	--	+
1/6/2003	8:16:58 AM	28	--	--	+
1/6/2003	8:17:09 AM	34	--	--	+
1/6/2003	8:17:33 AM	35	--	--	+
1/6/2003	8:18:32 AM	27	--	--	+
1/6/2003	8:18:55 AM	--	36	--	+
1/6/2003	8:20:08 AM	34	--	--	+
1/6/2003	8:20:22 AM	30	--	--	+
1/6/2003	8:20:47 AM	35	--	--	+
1/6/2003	8:24:41 AM	--	39	--	+
1/6/2003	8:24:53 AM	30	--	--	+
1/6/2003	8:25:12 AM	32	--	--	+
1/6/2003	8:25:29 AM	--	--	48	+
1/6/2003	8:25:50 AM	--	36	--	+
1/6/2003	8:26:39 AM	30	--	--	+
1/6/2003	8:27:52 AM	33	--	--	+
1/6/2003	8:28:03 AM	32	--	--	+
1/6/2003	8:29:09 AM	26	--	--	+
1/6/2003	8:29:23 AM	27	--	--	+
1/6/2003	8:30:10 AM	30	--	--	+

Date	Time	025+	35+	45+	Dir
1/6/2003	8:30:23 AM	27	--	--	+
1/6/2003	8:31:36 AM	--	45	--	+
1/6/2003	8:31:56 AM	--	39	--	+
1/6/2003	8:32:23 AM	30	--	--	+
1/6/2003	8:33:18 AM	31	--	--	+
1/6/2003	8:34:49 AM	34	--	--	+
1/6/2003	8:35:03 AM	28	--	--	+
1/6/2003	8:35:33 AM	27	--	--	+
1/6/2003	8:35:43 AM	--	37	--	+
1/6/2003	8:35:54 AM	33	--	--	+
1/6/2003	8:36:06 AM	29	--	--	+
1/6/2003	8:37:14 AM	31	--	--	+
1/6/2003	8:37:53 AM	26	--	--	+
1/6/2003	8:39:35 AM	--	37	--	+
1/6/2003	8:40:02 AM	28	--	--	+
1/6/2003	8:40:43 AM	--	36	--	+
1/6/2003	8:40:58 AM	34	--	--	+
1/6/2003	8:42:42 AM	35	--	--	+
1/6/2003	8:43:14 AM	27	--	--	+
1/6/2003	8:43:30 AM	26	--	--	+
1/6/2003	8:45:39 AM	34	--	--	+
1/6/2003	8:45:53 AM	26	--	--	+
1/6/2003	8:47:13 AM	--	36	--	+
1/6/2003	8:47:25 AM	34	--	--	+
1/6/2003	8:47:36 AM	32	--	--	+
1/6/2003	8:47:47 AM	32	--	--	+
1/6/2003	8:48:02 AM	26	--	--	+
1/6/2003	8:48:57 AM	26	--	--	+
1/6/2003	8:49:23 AM	26	--	--	+
1/6/2003	8:49:35 AM	31	--	--	+
1/6/2003	8:49:48 AM	31	--	--	+
1/6/2003	8:50:12 AM	--	38	--	+
1/6/2003	8:50:23 AM	33	--	--	+
1/6/2003	8:50:55 AM	30	--	--	+
1/6/2003	8:51:08 AM	27	--	--	+
1/6/2003	8:52:32 AM	32	--	--	+
1/6/2003	8:54:21 AM	--	36	--	+
1/6/2003	8:54:35 AM	29	--	--	+
1/6/2003	8:54:47 AM	30	--	--	+
1/6/2003	8:56:48 AM	27	--	--	+
1/6/2003	8:58:39 AM	--	45	--	+
1/6/2003	8:58:48 AM	--	40	--	+
1/6/2003	8:59:00 AM	30	--	--	+
1/6/2003	8:59:42 AM	32	--	--	+
1/6/2003	9:00:32 AM	31	--	--	+
1/6/2003	9:00:48 AM	26	--	--	+
1/6/2003	9:02:27 AM	33	--	--	+
1/6/2003	9:04:19 AM	29	--	--	+
1/6/2003	9:05:07 AM	32	--	--	+
1/6/2003	9:05:17 AM	35	--	--	+
1/6/2003	9:05:44 AM	--	42	--	+
1/6/2003	9:05:53 AM	--	41	--	+
1/6/2003	9:06:22 AM	27	--	--	+
1/6/2003	9:06:35 AM	27	--	--	+
1/6/2003	9:06:48 AM	34	--	--	+

Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
Vehicle Speed Comparison

Batch Number: 123002-A

Survey Location: Pretlow test file

Posted Speed Limit:	025 MPH
# At/Under Posted Speed:	921
# Over Posted Speed:	1683
Average Speed:	27.4 MPH
Pace Range:	22 to 32 MPH
Total Vehicles in Pace:	1565
% of Vehicles in Pace:	60 %
85th Percentile:	32
Total # Veh Surveyed:	5179
Approaching:	2604
Receeding:	2575
Number Unknown:	0

Start Date: 01/06/03

End Date: 01/07/03

Start Time: 07:33 AM

End Time: 12:53 PM

Total Time:
  1 Days, 5 Hrs, 20 Min

Survey Zone: School
Direction of travel..
  North
(Approaching Sign)

Number of Vehicles vs. Measured Vehicle Speed (Both Directions)

Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
Daily Volume Traffic Flow

Batch Number: 123002-A

Survey Location: Pretlow test file

Posted Speed Limit:	025 MPH
# At/Under Posted Speed:	921
# Over Posted Speed:	1683
Average Speed:	27.4 MPH
Pace Range:	22 to 32 MPH
Total Vehicles in Pace:	1565
% of Vehicles in Pace:	60 %
85th Percentile:	32
Total # Veh Surveyed:	5179
Approaching:	2604
Receeding:	2575
Number Unknown:	0

Start Date: 01/06/03
End Date: 01/07/03
Start Time: 07:33 AM
End Time: 12:53 PM
Total Time:
 1 Days, 5 Hrs, 20 Min

Survey Zone: School
Direction of travel..
 North
(Approaching Sign)

Survey: Traffic Both Directions

AM Time   PM Time

Vehicle Volume / Hour

Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
85th Percentile Speed and Pace Distribution

Batch Number: 111902-C

Survey Location: Hunterdale test

Posted Speed Limit:	035 MPH
# At/Under Posted Speed:	237
# Over Posted Speed:	173
Average Speed:	34.8 MPH
Pace Range:	30 to 40 MPH
Total Vehicles in Pace:	338
% of Vehicles in Pace:	82 %
85th Percentile:	41
Total # Veh Surveyed:	647
Approaching:	410
Receding:	204
Number Unknown:	33

Start Date: 11/19/02
End Date: 11/19/02
Start Time: 06:40 AM
End Time: 07:44 AM
Total Time:
 0 Days, 1 Hrs, 04 Min

Survey Zone: Railroad
Direction of travel..
 North East
(Approaching Sign)
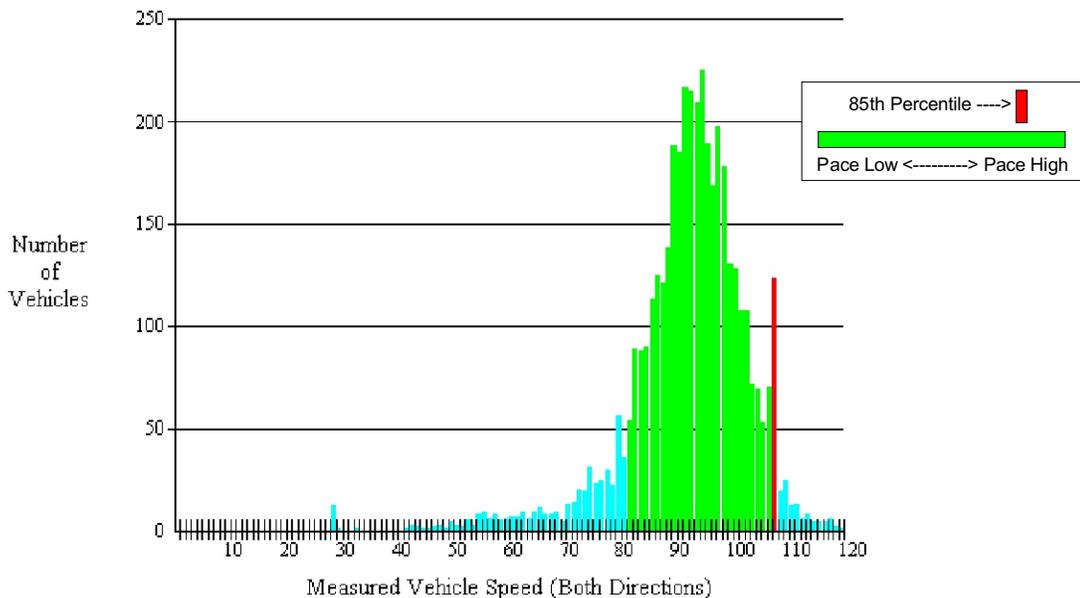
Legend:
85th Percentile ---->
Pace Low <---------> Pace High

Number of Vehicles (y-axis)
Measured Vehicle Speed (Both Directions) (x-axis)

Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
Daily Traffic Flow - (15 Minute Interval)
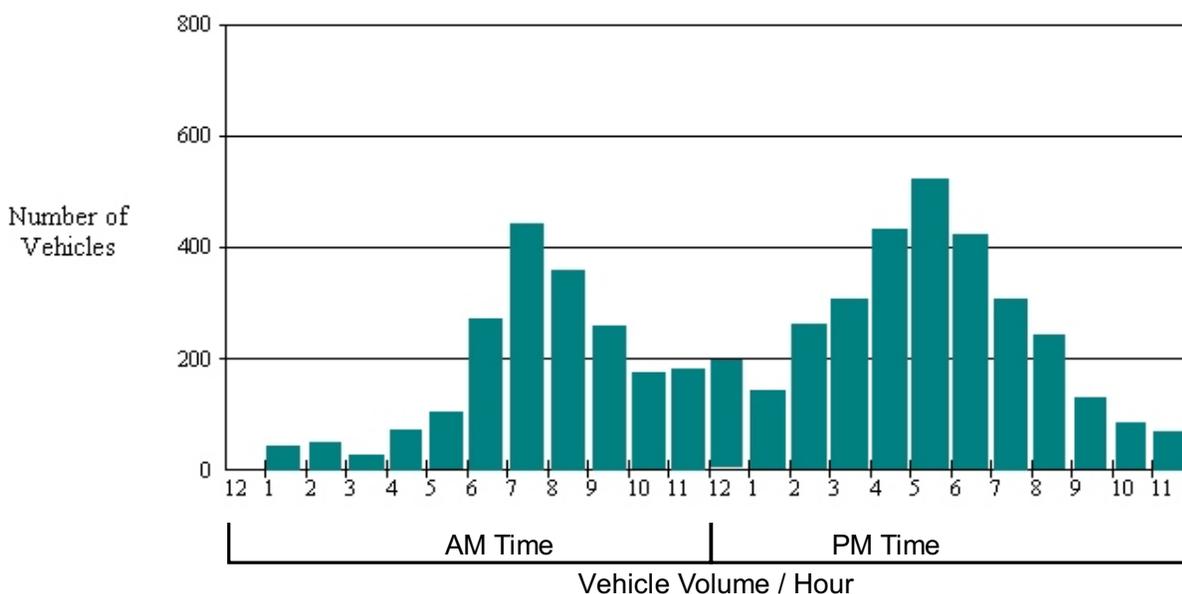
Batch Number: 123002-A
Survey Zone: School
Survey Location: Pretlow test file

Survey Period: 01/06/03 - 01/07/03

Date: Monday, Jan 6				(Vehicles Both Directions)			
Time AM	**A**	**R**	**Hour Total**	**Time PM**	**A**	**R**	**Hour Total**
00:00 - 00:14	*	*		12:00 - 12:14	40	30	
00:15 - 00:29	*	*		12:15 - 12:29	26	37	
00:30 - 00:44	*	*		12:30 - 12:44	41	35	
00:45 - 00:59	*	*	*	12:45 - 12:59	32	38	279
01:00 - 01:14	*	*		13:00 - 13:14	31	27	
01:15 - 01:29	*	*		13:15 - 13:29	36	20	
01:30 - 01:44	*	*		13:30 - 13:44	26	32	
01:45 - 01:59	*	*	*	13:45 - 13:59	30	36	238
02:00 - 02:14	*	*		14:00 - 14:14	24	34	
02:15 - 02:29	*	*		14:15 - 14:29	28	40	
02:30 - 02:44	*	*		14:30 - 14:44	36	36	
02:45 - 02:59	*	*	*	14:45 - 14:59	32	35	265
03:00 - 03:14	*	*		15:00 - 15:14	37	22	
03:15 - 03:29	*	*		15:15 - 15:29	26	31	
03:30 - 03:44	*	*		15:30 - 15:44	29	34	
03:45 - 03:59	*	*	*	15:45 - 15:59	35	33	247
04:00 - 04:14	*	*		16:00 - 16:14	37	34	
04:15 - 04:29	*	*		16:15 - 16:29	27	29	
04:30 - 04:44	*	*		16:30 - 16:44	40	28	
04:45 - 04:59	*	*	*	16:45 - 16:59	29	34	258
05:00 - 05:14	*	*		17:00 - 17:14	42	23	
05:15 - 05:29	*	*		17:15 - 17:29	41	24	
05:30 - 05:44	*	*		17:30 - 17:44	26	27	
05:45 - 05:59	*	*	*	17:45 - 17:59	19	27	229
06:00 - 06:14	*	*		18:00 - 18:14	21	24	
06:15 - 06:29	*	*		18:15 - 18:29	27	30	
06:30 - 06:44	*	*		18:30 - 18:44	17	28	
06:45 - 06:59	*	*	*	18:45 - 18:59	24	19	190
07:00 - 07:14	*	*		19:00 - 19:14	23	20	
07:15 - 07:29	*	*		19:15 - 19:29	17	18	
07:30 - 07:44	6	14		19:30 - 19:44	25	15	
07:45 - 07:59	26	23	69	19:45 - 19:59	18	20	156
08:00 - 08:14	20	33		20:00 - 20:14	35	17	
08:15 - 08:29	29	22		20:15 - 20:29	19	15	
08:30 - 08:44	40	12		20:30 - 20:44	24	16	
08:45 - 08:59	29	36	221	20:45 - 20:59	8	9	143
09:00 - 09:14	32	36		21:00 - 21:14	10	15	
09:15 - 09:29	35	33		21:15 - 21:29	10	10	
09:30 - 09:44	45	25		21:30 - 21:44	18	14	
09:45 - 09:59	34	36	276	21:45 - 21:59	14	15	106
10:00 - 10:14	35	32		22:00 - 22:14	15	14	
10:15 - 10:29	22	23		22:15 - 22:29	20	17	
10:30 - 10:44	40	28		22:30 - 22:44	5	16	
10:45 - 10:59	40	24	244	22:45 - 22:59	17	13	117
11:00 - 11:14	35	34		23:00 - 23:14	10	7	
11:15 - 11:29	37	30		23:15 - 23:29	6	5	
11:30 - 11:44	34	35		23:30 - 23:44	14	5	
11:45 - 11:59	36	31	272	23:45 - 23:59	*	13	60

Total AM: 1082	Total PM: 2288
Peak Hour AM: 09:00 - 09:59	Peak Hour PM: 12:00 - 12:59
Peak Flow AM: 276/hr	Peak Flow PM: 279/hr
Peak % of AM: 25.51%	Peak % of PM: 12.19%
Peak AM % of 24 Hr: 8.19%	Peak PM % of 24 Hr: 8.28%

Hanksville Traffic Control Agency
3546 Western Blvd Plaza - Suite 243
Hanksville, Summit Co, Utah 34567
Traffic Summary (Week)

Batch Number: 123002-B

Start Date: 01/06/03	Start Time: 07:33 AM
End Date: 01/07/03	End Time: 12:53 PM
Zone: Highway	Direction of Travel: North East
Location: New test for Jan 2003	

DIR	Mon-06 A	Mon-06 R	Tue-07 A	Tue-07 R	Wed-08 A	Wed-08 R	Thu-09 A	Thu-09 R	Fri-10 A	Fri-10 R	Sat-11 A	Sat-11 R	Sun-12 A	Sun-12 R	Wk Day Avg A	Wk Day Avg R	Wk End Avg A	Wk End Avg R
12:AM	*	*	19	17	*	*	*	*	*	*	*	*	*	*	19	17	*	*
1:00	*	*	15	15	*	*	*	*	*	*	*	*	*	*	15	15	*	*
2:00	*	*	10	8	*	*	*	*	*	*	*	*	*	*	10	8	*	*
3:00	*	*	9	14	*	*	*	*	*	*	*	*	*	*	9	14	*	*
4:00	*	*	28	21	*	*	*	*	*	*	*	*	*	*	28	21	*	*
5:00	*	*	29	36	*	*	*	*	*	*	*	*	*	*	29	36	*	*
6:00	*	*	43	48	*	*	*	*	*	*	*	*	*	*	43	48	*	*
7:00	34	38	76	100	*	*	*	*	*	*	*	*	*	*	55	69	*	*
8:00	123	111	99	116	*	*	*	*	*	*	*	*	*	*	111	114	*	*
9:00	149	137	112	124	*	*	*	*	*	*	*	*	*	*	131	131	*	*
10:00	143	108	140	108	*	*	*	*	*	*	*	*	*	*	142	108	*	*
11:00	151	136	136	144	*	*	*	*	*	*	*	*	*	*	144	140	*	*
12:PM	145	150	11	72	*	*	*	*	*	*	*	*	*	*	78	111	*	*
1:00	125	117	*	*	*	*	*	*	*	*	*	*	*	*	125	117	*	*
2:00	123	152	*	*	*	*	*	*	*	*	*	*	*	*	123	152	*	*
3:00	133	126	*	*	*	*	*	*	*	*	*	*	*	*	133	126	*	*
4:00	141	134	*	*	*	*	*	*	*	*	*	*	*	*	141	134	*	*
5:00	133	108	*	*	*	*	*	*	*	*	*	*	*	*	133	108	*	*
6:00	92	104	*	*	*	*	*	*	*	*	*	*	*	*	92	104	*	*
7:00	85	73	*	*	*	*	*	*	*	*	*	*	*	*	85	73	*	*
8:00	87	61	*	*	*	*	*	*	*	*	*	*	*	*	87	61	*	*
9:00	52	55	*	*	*	*	*	*	*	*	*	*	*	*	52	55	*	*
10:00	58	61	*	*	*	*	*	*	*	*	*	*	*	*	58	61	*	*
11:00	30	30	*	*	*	*	*	*	*	*	*	*	*	*	30	30	*	*
Totals	1804	1701	727	823	0	0	0	0	0	0	0	0	0	0	1873	1853		
Comb	3505		1550		0		0		0		0		0		3726		0	
Split %	51.5 | 48.5		46.9 | 53.1		*		*		*		*		*		50.3 | 49.7		*	

Reader for SSF, Serial interface cable, wall power supply and SSF.

SSF (Smart Media)
Notch in upper left corner !!!
Gold contacts away from you

Speed Sign SSF board
Notice card notch in upper left corner, Gold contacts away from you

SSF being inserted in Reader The socket is in the bottom of the opening (not the top). Make sure the card is oriented with the notch away from you and to the left as shown above.

The SSF operation is the same as in the manual for recording vehicle surveys. The difference is that you will be able to save the data from the survey on the Smart Media card (referred to as SSF or Solid State Floppy). If the SSF is not inserted in the holder in the sign, the sign will blink a "0" and not enter the #6 setup for surveys. To take a survey, you must first insert the SSF in the sign SSF socket. With the keyboard plugged in, turn on the power to the sign. After the power-up-test (blinking digits) the sign will blink the tens digit with a "0". You have 30 seconds to start entering the fields for sign setup or starting the recording setting. If the keyboard is inactive for thirty seconds, the sign will start operating and display the Radar readings. If you run out of time, simply turn off the sign and start again.
#1 is the violation alert. Blinks when over speed .
#2 is the blinking time, less is faster.
#3 is the high speed cutoff. Keeps people from seeing high speeds.
#4 is the relay option
#5 is the length of time the display stays lit. Too large of a number will cause erratic displays.
#6 on the keyboard is the setup key to start a survey. All data entered in the keyboard should be three digits. Example: 15 = 015
9 Reset the sign to factory defaults
Please see the manual for details on ALL of the above.
The power supply for the reader has to be plugged into a wall plug (117VAC) and the reader (right side). See picture.
The reader has to be plugged into your computer and the serial cable attached prior to running Traffic Count software. When you want to download the SSF to you computer, run the Traffic Count software, answer the question about what serial port you are connected, and insert the SSF. The data will be automatically downloaded after three seconds.

SSF being inserted in SSF Speed Sign board.

SSF fully inserted in Speed Sign