



Using Earthmate® Blue Logger™ GPS to Monitor the Speed of Drivers

Written by
Kim Arsenault

Overview

With Blue Logger, you can create a GPS log using customized speed and distance preferences and then import it into a compatible DeLorme program (such as Street Atlas USA®, Topo USA®, or XMap®) to view points that were obtained at a certain speed, at a certain date/time, and/or within a given radius. This functionality is helpful in a variety of ways—you can:

- Monitor your fleet to ensure that it is moving consistently and not at dangerous speeds.
- Track your progress as you travel with the GPS device and then view your route to determine areas that may have slowed you down due to traffic.
- Keep an eye on your teenage child with a new drivers license to make sure they aren't driving at dangerous speeds or traveling in questionable areas.

There are countless scenarios in which Blue Logger could be used to log GPS points. The examples in this document use Blue Logger GPS, Blue Logger Manager, and a compatible DeLorme program to monitor the speeds of a delivery truck driver through residential areas.

Assigning Logging Preferences

In order to create a GPS log that contains the speed and/or distance information you need, you must first assign the desired logging preferences in Blue Logger Manager (the software that accompanies Blue Logger GPS). With Blue Logger Manager, you can set up Blue Logger GPS so that it:

- **Logs only when traveling faster than a certain speed, in either time or distance intervals**—This option is very helpful for determining when a driver is speeding.
- **Logs only when traveling slower than a certain speed, in either time or distance intervals**—This option is helpful for determining when a driver has stopped or is stuck in traffic.
- **Logs at any speed, in either time or distance intervals**—This option is helpful when you want to see all of the points for a trip, regardless of speed or distance.

For a given logging session, you can select any combination of these options (one, two, or all three).

You assign your logging preferences in the Logging tab in Blue Logger Manager. Once you have selected the desired criteria, click **Send Setup to Device** and ensure the **Enable Logging** button is active when you want to start logging.

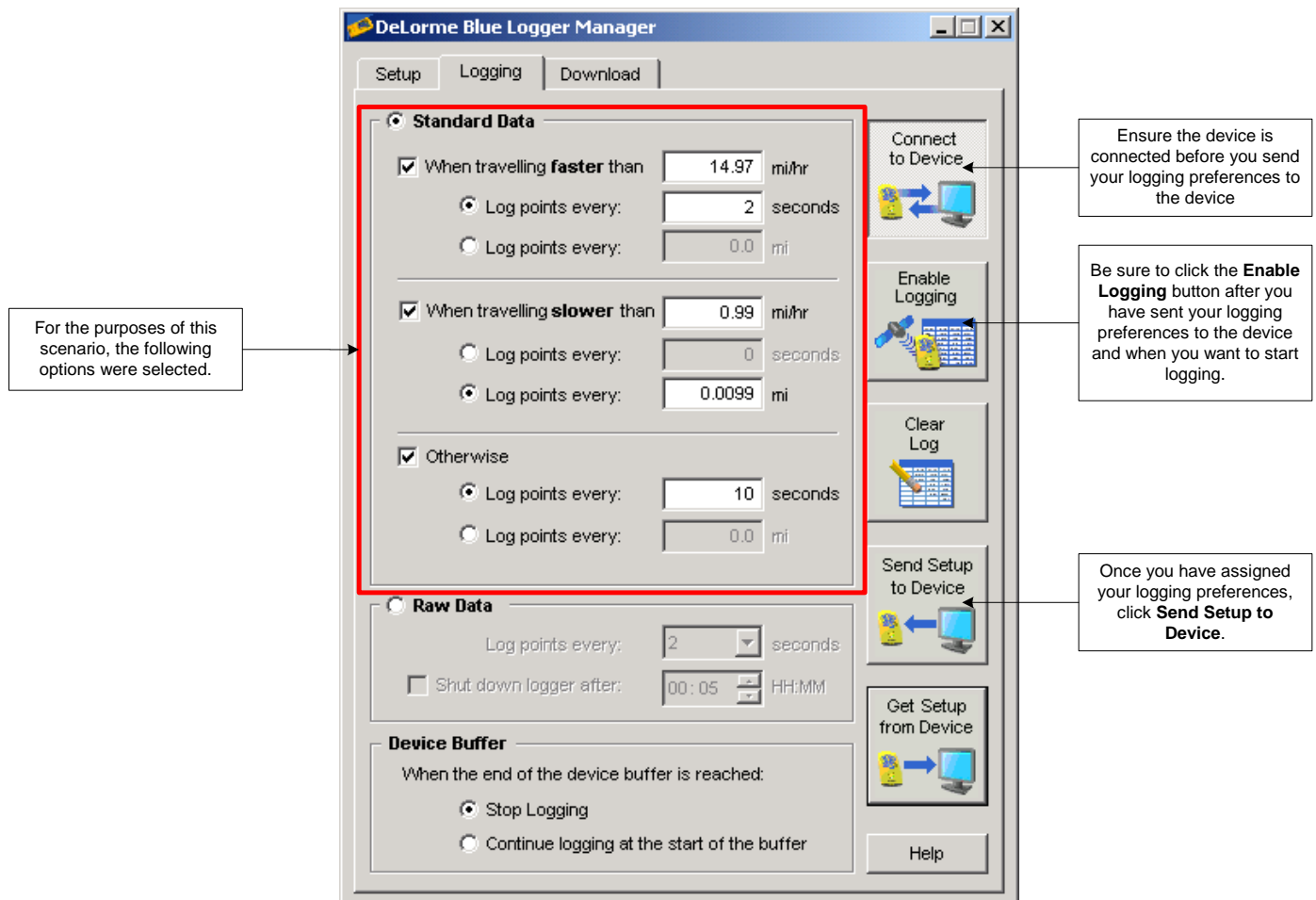


Figure 1: A delivery business has received complaints that one of their drivers has been driving too fast through some residential areas. The business owner decided to track the driver's route with Blue Logger so he could determine when the driver was speeding. The owner used Blue Logger Manager to assign logging preferences to the Blue Logger GPS device so that he could find out when the driver was traveling faster than 15 mph, when he was stopped, and when he was driving at the required speed limit.

Creating a GPS Log

Once you have assigned your logging preferences and activated the **Enable Logging** button in Blue Logger Manager, place Blue Logger GPS in the vehicle whose speed you want to track. The GPS device will log points as long as the device has a clear view of the sky.

Downloading the Log from the GPS Device

Once you are finished logging, open Blue Logger Manager to stop the logging process (click the **Enable Logging** button so that it is no longer activated) and download the log. You can select to download all of the points on the device or only select points (based on additional criteria you assign).

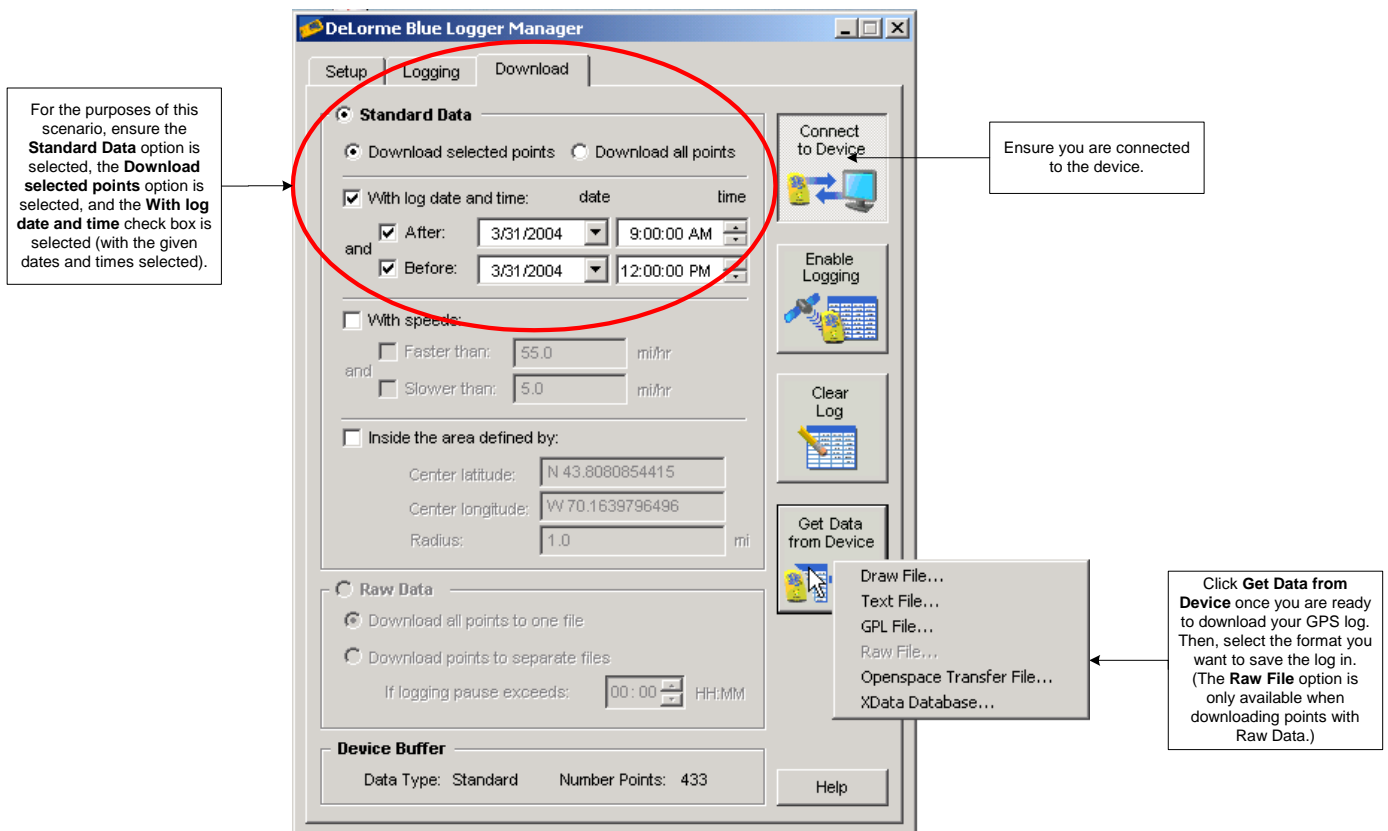


Figure 2: The business owner decides to download the log as a draw file so he can view the points as symbols on the map. The symbols will display based on the logging preferences he established in the Logging tab. For example, whenever the driver was traveling faster than 15 mph, a dark red triangular flag will display on the map. When the driver is stopped, a light blue rectangular flag will display on the map. When the driver is traveling at the required speed limit, a bright red triangular flag will display on the map.

You can save the GPS log as a:

- **Draw File**—Lets you view the logged points as symbols on the map. The symbols are differentiated based on GPS status and the logging preferences (time, speed, and distance) that were assigned in the Logging tab.
- **Text File**—Lets you view the logging information in a .txt-compatible program such as Microsoft Excel, Word, Notepad, or WordPad. The file contains the date, time, latitude, longitude, elevation (in feet), heading, speed (mph), GPS status, and log type for each point that was logged.
- **GPL File**—Lets you play back the log in a compatible DeLorme application, labeling the points based on GPS status.
- **Openspace Transfer File**—Lets you view the logged points as symbols (indicating GPS status) on the map. Openspace Transfer Files can be imported into XMap/GIS and then classified, symbolized, and labeled to your specifications.
- **XData Database**—Lets you view the logged points as symbols on the map. The symbols are circles that represent GPS status.

Viewing the Log Results

Once you have downloaded the log in the desired format, you can use a compatible DeLorme program to view the information on a map. This section of the document will describe the process of viewing each type of format (draw, text, GPL, openspace transfer, and XData database) in a compatible DeLorme program.

Note: Not all formats can be viewed in all DeLorme programs.

To View a Draw File

If you selected to download your points as a draw file, you can add the file into most DeLorme applications and view the points as symbols on the map.

Use the following steps to add and view the draw file in Topo USA 5.0.

1. Click the **Map Files** tab.
2. Click **Add** and then click **Draw Files** from the shortcut menu.
3. Browse to the location where you saved the file (the default location is *C:\DeLorme Docs\Draw*), select the file, and then click **Add**.
4. Double-click the draw file name in the Map Files list to center the map on that location

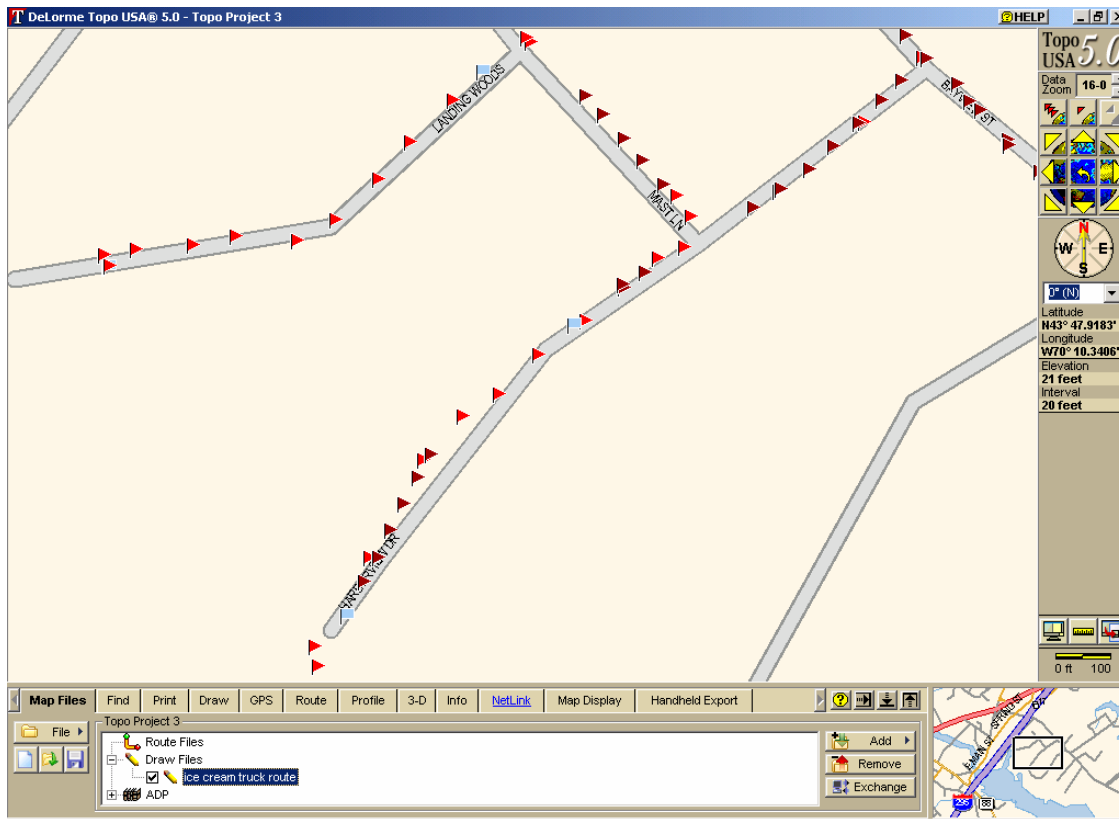
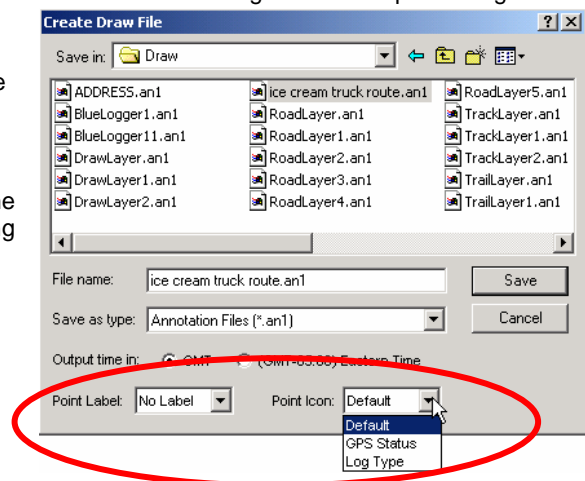


Figure 3: The flags in the graphic above represent the speed that the driver was traveling. The bright red flags indicate when the driver was driving below 15 mph. The dark red flags indicate when the driver was traveling above 15 mph. The light blue flags indicate when the driver was stopped.

In order to view the points as flags, **Log Type** was chosen from the Point Icon drop-down list when the log was downloaded as a draw file (see graphic to the right).

You could also view the speed of each point collected by selecting **Speed** from the Point Label drop-down list when the log was downloaded as a draw file. By viewing this information on the map, the business owner was able to verify that the driver was in fact exceeding the required speed limit in residential areas.



To View a Text File

You can open the text file in Microsoft® Excel or any compatible word processing application such as Notepad, Word, or Wordpad. The following is an example of a GPS log that was saved as a text file.

Note: If you use Excel to view the text file, open the file as a comma-delimited file.

	A	B	C	D	E	F	G	H	I	J
1	Date	Time (GM)	Latitude	Longitude	Elevation	Heading	Speed (m)	GPS Stat	Log Type	
2	3/31/2004	15:15:10	43.808	-70.1635	3.273	132.38	0.12	5	1	
3	3/31/2004	15:15:20	43.80802	-70.1635	7.816	68.25	0.12	5	1	
4	3/31/2004	15:15:30	43.80803	-70.1635	22.962	19.35	0.12	5	1	
5	3/31/2004	15:15:40	43.80802	-70.1635	19.887	101.69	0.12	3	1	
6	3/31/2004	15:15:50	43.80801	-70.1635	-9.557	86.39	0.06	3	1	
7	3/31/2004	15:16:00	43.80801	-70.1635	-14.859	9.2	0.06	3	1	
8	3/31/2004	15:16:10	43.80803	-70.1635	-19.313	307.3	0.81	1	1	
9	3/31/2004	15:16:20	43.80805	-70.1635	-23.907	307.3	0.81	1	1	
10	3/31/2004	15:16:30	43.80807	-70.1635	-21.775	307.3	0.81	1	1	
11	3/31/2004	15:16:37	43.80766	-70.164	-32.446	264	0.87	1	6	
12	3/31/2004	15:16:38	43.80759	-70.1643	-35.232	264	0.87	1	6	
13	3/31/2004	15:16:40	43.8075	-70.1646	-39.091	264	0.87	1	6	
14	3/31/2004	15:16:45	43.80722	-70.165	-43.032	191.37	0.56	2	6	
15	3/31/2004	15:16:48	43.8076	-70.1642	-46.089	55.48	0.37	3	6	
16	3/31/2004	15:16:50	43.80766	-70.1641	-45.504	209.27	1.06	3	1	
17	3/31/2004	15:16:51	43.8077	-70.1641	-45.992	226.17	0.31	3	6	
18	3/31/2004	15:16:53	43.80782	-70.1639	-46.427	75.52	0.19	3	6	
19	3/31/2004	15:16:55	43.80791	-70.1637	-42.496	194.16	0.19	3	6	
20	3/31/2004	15:16:58	43.80802	-70.1635	-31.568	257.97	0.37	3	6	

Figure 4: The text file contains the date, time, latitude, longitude, elevation, heading, speed, GPS status, and log type for each point that was recorded during the logging process. The numbers in the GPS Status column indicate the GPS status of the point that was taken (for example, 3 indicates a 3-D fix and 5 indicates a 3-D DGPS fix). The numbers in the Log Type column indicate the category the point falls into based on the logging preferences that were assigned. Downloading the information as a text file would be helpful for the business owner if he wanted to see the speed for each point that was logged.

To View a GPL File

If you selected to download your points as a GPL file, you can play the log back in most DeLorme mapping applications.

Use the following steps to play back a GPL file in a compatible DeLorme application.

1. Click the **GPS** tab and then click **GPS Log**.
2. Click **Clear Trail** on the GPS Log dialog box to clear any existing GPS points from the map display.
3. Select the desired log file from the Log drop-down list. Log files have .gpl extensions and are saved in the *C:\DeLorme Docs\GPSLogs* directory by default.
4. Click the **Play** button to begin playing back your log.

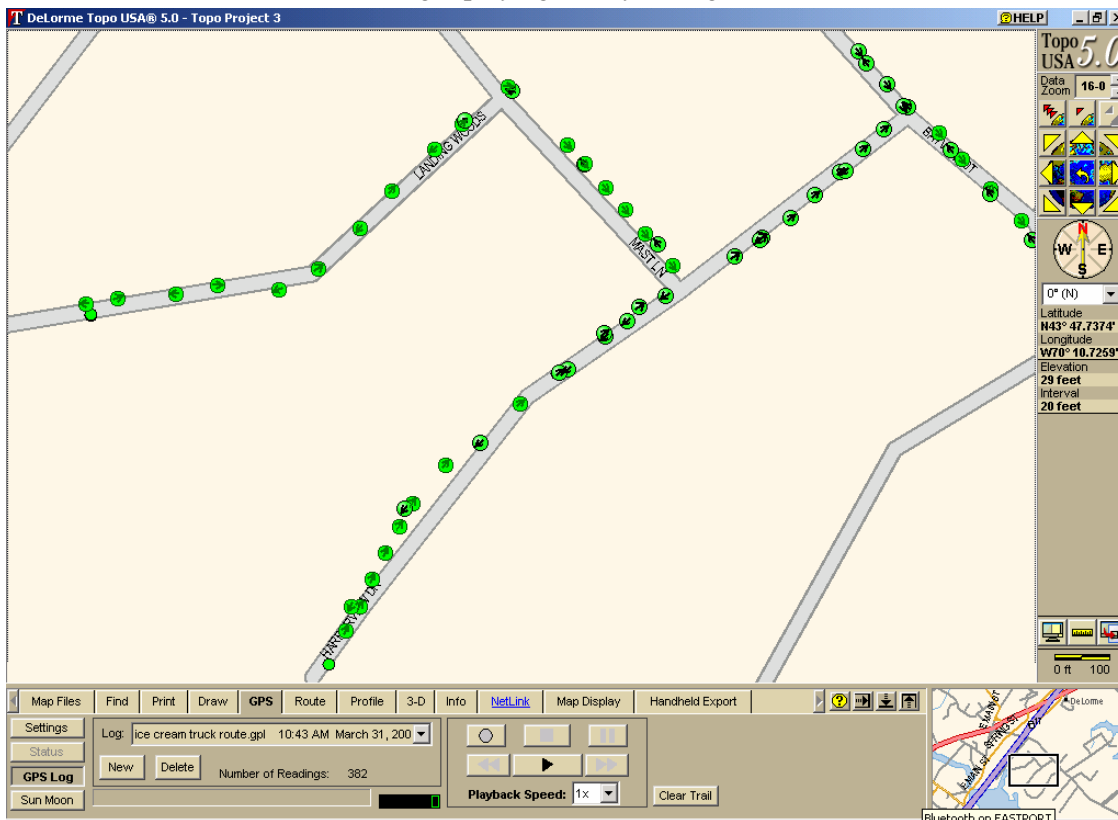


Figure 5: The graphic above shows the route the driver took, displaying the logging points with GPS status symbols. This option is helpful for viewing travel distance.

To View an Openspace Transfer File

Openspace Transfer Files can be viewed in XMap 4.5 (and later).

Use the following steps to view an Openspace Transfer file in XMap.

1. Click the **GIS** tab.
2. Click the **Database** button and then click **Import Layer**.
3. Click the browse button next to Data File, browse to the location where you saved the Openspace Transfer File (the default location is *C:\DeLorme Docs\Export*), select the file, and then click **Open**.
4. Select the database you want to add the layer to.
5. Click **Next**. The layer displays on the map as long as its check box is selected in the workspace area of the GIS tab.

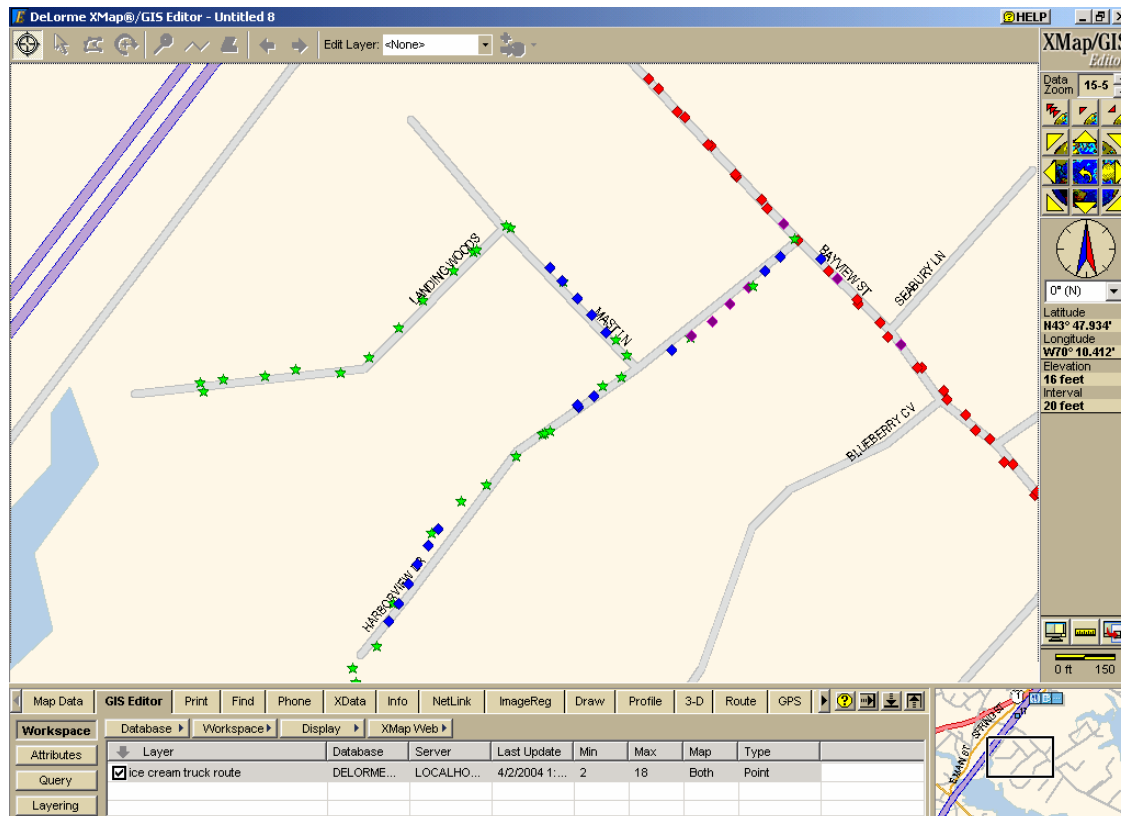


Figure 6: In the graphic above, the points in the log were classified based on four ranges of speed (0-14.97 mph, 14.98-20, 20.01-25, and 25.01-45) and then symbolized differently based on each range. For example, the green stars indicate when the driver was traveling at less than 14.97 mph, the blue diamonds indicate when the driver was traveling between 14.98-20 mph, the purple diamonds indicate when the driver was traveling 20.01-25 mph, and the red diamonds indicate when the driver was traveling between 25-45 mph. By viewing this information on the map, the business owner was able to verify that the driver was in fact exceeding the required speed limit in residential areas.

To View an XData Database

XData databases are compatible with XMap.

Use the following steps to view an XData database in XMap.

1. Click the **Map Data** tab.
2. Click **Data** and then click **Add** from the shortcut menu.
3. Browse to the location where you saved the file (the default location is *C:\DeLorme Docs\Datasets*), select the file, and then click **Add**.
4. Double-click the database in the Map Data list to center the map on that location.

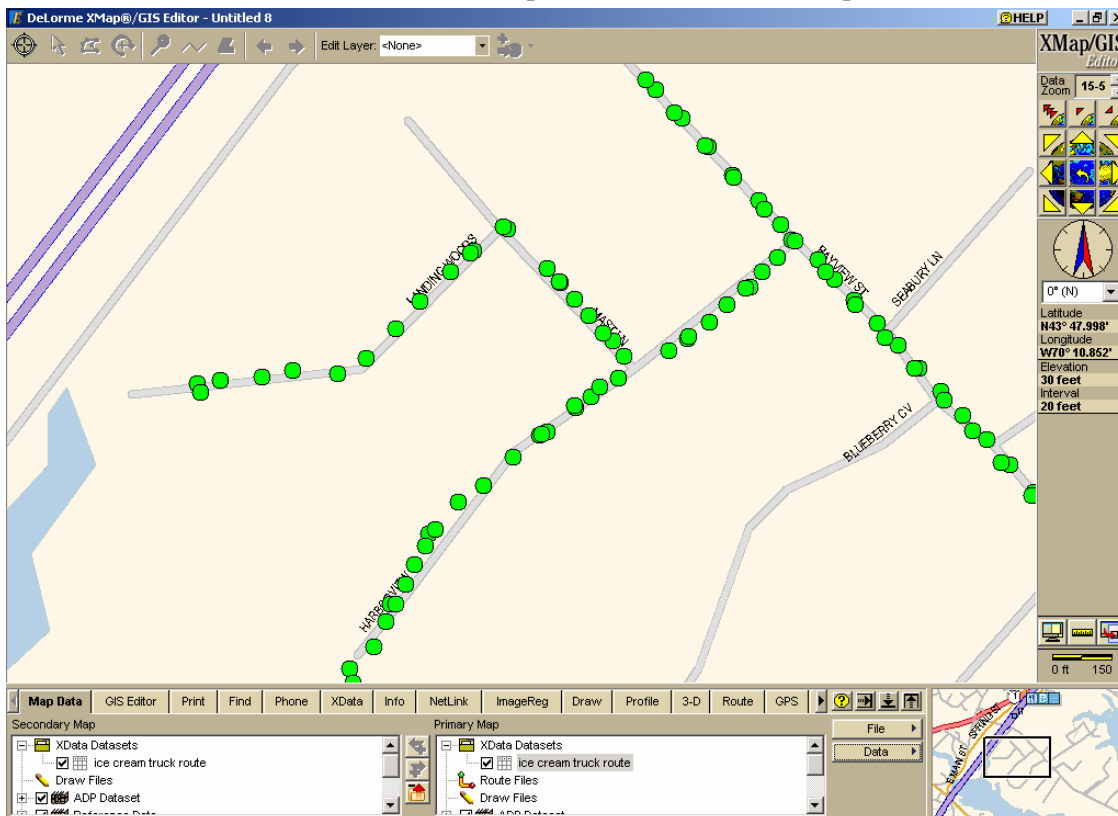


Figure 7: The graphic above shows the route the driver took, displaying the logging points with GPS status symbols. This option is helpful for viewing travel distance.